MEDICAL LIBRARY

FEB 27 1950

Volume XI FEBRUARY 1950 Number 2

DISEASES OF THE NERVOUS SYSTEM

A PRACTICAL JOURNAL ON PSYCHIATRY AND NEUROLOGY

CONTENTS:

THE CASE FOR DIDACTIC GROUP PSYCHOTHERAPY 35
J. W. Klapman, M.D.

THE PSYCHIATRIST ON THE GENERAL HOSPITAL WARD 42
Charles B. Wilkinson, M.D.

MESANTOIN TOXICITY 48
John S. Garvin, M.D. and Frederic A. Gibbs, M.D.

A PROPOSED RATIONALE FOR TOPECTOMY 50
Benno Schlesinger, M.D.

NEUROLOGICAL CLINICAL PATHOLOGICAL CONFERENCE 53

ORAL MYANESIN (TOLSEROL) IN SCHIZOPHRENIA 58
Samuel Dinenberg, M.D. and Arthur O. Hecker, M.D.

SPECIAL CLINICAL TECHNIQUES AND OBSERVATIONS IN THE USE OF SODIUM PENTOTHAL FOR NARCOSYNTHESIS 61
Leonard Tilkin, M.D.

SANITARIA

ASSOCIATE EDITORS

A. E. Bennett, M.D. ..... Berkeley, California
Francis J. Braceland, M.D. ..... Rochester, Minn.
Franklin G. Ebaugh, M.D. ..... Denver, Colorado
Temple Fay, M.D. ..... Philadelphia, Pennsylvania
Milton H. Erickson, M.D. ..... Eloise, Michigan
Hamilton Ford, M.D. ..... Galveston, Texas
Walter Freeman, M.D. ..... Washington, D. C.
George T. Harding, M.D. ..... Columbus, Ohio
A. Hauser, M.D. ..... Houston, Texas
Louis J. Karnosh, M.D. ..... Cleveland, Ohio
Frank H. Luton, M.D. ..... Nashville, Tennessee
Wm. Malamud, M.D. ..... Worcester, Mass.
Karl A. Menninger, M.D. ..... Topeka, Kansas
Glenn Myers, M.D. ..... Los Angeles, California
Hans H. Reese, M.D. ..... Madison, Wisconsin
S. Bernard Wortis, M.D. ..... New York, N. Y.

Titus H. Harris, M.D.
Galveston, Texas
Editor-in-Chief

YEARLY SUBSCRIPTION $4.00
SINGLE COPIES 40 Cents
FOREIGN SUBSCRIPTION $4.50

George Bingeir, B.S., LL.B.
Chicago, Illinois
Managing Editor

THE

RING SANATORIUM AND HOSPITAL

Arlington Massachusetts

Eight miles from Boston at an elevation of 400 feet

71st Year

For the study, care and treatment of emotional and personality disorders.

All recognized psychiatric therapies as indicated.

Cottage accommodations meet varied individual needs. Limited facilities for the continued care of progressive disorders requiring medical, psychiatric or neurological supervision.

BENJAMIN SIMON, M.D.
Medical Director

CHARLES E. WHITE, M.D. and LOUIS BRENNER, M.D.
Associates

HARDING SANITARIUM

WORTHINGTON, OHIO

For Nervous and Mental Disorders

NINE MILES NORTH OF STATE HOUSE — COLUMBUS

HARRISON S. EVANS, M.D., Medical Director
GEORGE T. HARDING, M.D., President of Board
CHARLES L. ANDERSON, M.D., Clinical Director

L. HAROLD CAVINESS, M.D.
J. RUSSELL FRANTZ, M.D.
THEODORE J. LUKENS, M.D.
LESLIE H. GOULD, M.D.
CHARLES W. HARDING, M.D.

Telephone: Columbus FR. 2-5367

Compton Sanitarium

AND

Las Campanas Hospital

COMPTON, CALIFORNIA
(Near Los Angeles)

Compton Sanitarium is a private psychiatric hospital with 120 beds. Emphasis is given psychotherapy by a staff of resident psychiatrists. Other treatment procedures are duly evaluated and administered. Careful records are maintained. There are psychiatrically trained graduate nurses; student nurses through affiliation; nursing attendants; dietitian; occupational therapist; recreational therapist; hydrotherapist; masseuse. Las Campanas Hospital (43 beds) provides adjunct general hospital facilities. Compton Sanitarium and Las Campanas Hospital are approved by the American College of Surgeons.

GLENN MYERS, M.D., *Medical Director.*

Beverly Hills Sanitarium

For the Study and Treatment of Nervous and Mental Diseases

218 NO. WESTMORELAND DALLAS 11, TEXAS

This sanitarium is a psychopathic hospital with a home-like environment and is equipped to treat psychiatric and neurological cases in a most scientific manner by means of psychotherapy, occupational therapy, recreational therapy, and physiotherapy, including insulin and electroshock treatments as well as neurosurgery. There is a trained psychologist as well as a trained social worker. An electroencephalographic instrument is available.

ARTHUR J. SCHWENKENBERG, M.D.
Medical Director

JOSEPH L. KNAPP, M.D.
Assoc. Neuropsychiatrist and Clinical Director

B. L. SHINN, M.D.
ARCHIE R. FOLEY, M.D.
Resident Physicians

STEPHEN WEISZ, M.D.
ROBERT E. WINN, M.D.
Visiting Neuropsychiatrists

VOL. XI FEBRUARY 1950 NO. 2

EDITORIAL OFFICES
UNIVERSITY OF TEXAS SCHOOL OF MEDICINE
800 Avenue B., Galveston, Texas

PUBLICATION OFFICE
PHYSICIANS POSTGRADUATE PRESS
277 Broadway, New York 7, New York

DISEASES of the NERVOUS SYSTEM

(PUBLISHED MONTHLY)

A PRACTICAL JOURNAL ON PSYCHIATRY AND NEUROLOGY

*The Case for Didactic Group Psychotherapy**

J. W. KLAPMAN, M.D.
Chicago, Illinois

It is not to be expected that any new discipline or art, any new mode of therapy, should receive unqualified and universal approval and acceptance at the very outset. As a matter of fact, the method of group psychotherapy has gained quite wide acceptance and numerous adherents with rather astonishing rapidity. There is no cause for disappointment on that score. Nevertheless, a consideration of the resistance to its adoption here and there necessitates a recapitulation of its basic assumptions.

With some presumption it is here suggested that even the art of mental healing itself would appear to need some analysis and psychotherapy, for it is not wholly free of its own species of rationalizations. In a recent work on treatment in psychiatry the authors remind us that there is a body of scientifically well-founded therapies, such as hyperpyrexia, anti-convulsant chemotherapy, hydrotherapy, chemical sedation, etc., etc., more or less in contradistinction to the more nebulous, and, by implication, less scientific psychotherapies. Among the scientific procedures are listed such methods as electro-shock and insulin therapy. Now, any cursory perusal of the history and course of development of the shock therapies will easily reveal the chance character of their origins. But they are mediated through physical agencies; insulin in the one case and an electric current in the other, and the tendency to aquate the physical and tangible with the scientific dies very hard indeed.

But as psychotherapy it is to be noted that group treatment, being juxtaposed with the individual therapies, cannot avoid the implication of rivalry and competitiveness. Psychotherapy having long been considered as a certain relationship between two individuals with certain subtle interactions, has established itself as the framework and model of psychotherapy more or less exclusively. When compared with actual prevalent conditions and needs it will be found deficient in a number of respects.

Even excluding the frankly psychotic individuals it is well known that many patients are not amenable to individual psychotherapy. When it comes to that *ne plus ultra* of psychotherapy, psychoanalysis, it is well known that the patients presenting themselves for its ministrations are already self-selected. Usually the subject has some smattering of knowledge of what the treatment will consist. He has no doubt deliberated some time over his decision. But even then the psychoanalyst may further exercise considerable selection, excluding major psychoses, those beyond an optimal age level, and those with more severe psychoneuroses, the so-called character neuroses. In other words, the candidate for psychoanalytic treatment must be of good intelligence, with psychopathology not too severe and still in *status nascendi* and with deeper insights more or less ready to erupt into consciousness. And even in spite of all these favorable conditions

*Read before the Illinois Society for Personality Study, May 2, 1949. From the Chicago Community Clinic.

failures with psychoanalysis are not infrequent.

Yet the total stratum of patients who would qualify for psychoanalytic treatment and similar therapies forms a very thin veneer over the vast numbers of individuals who are in dire need of psychotherapy. It would therefore seem like a bit of presumptuous nonsense and a plain breach of psychiatric obligation to insist that since these vast numbers cannot be reached by psychoanalysis or any similar individual therapy there is actually no treatment for them. The difficulty does not lie primarily with psychoanalysis *per se*, but rather in the failure to recognize that there are different levels of psychopathology and the failure to recognize the importance of calibrating techniques to conform with such varying levels. If, as Gardner Murphy[1] sees it, personality constitutes the individual plus his immediate environment, it must even appear reasonable that psychotherapy in some instances need not at all concern itself with what is inside the skin.

Now, because group psychotherapy assays to treat patients in groups the assumption is that the original impetus for its development was the scarcity of therapists and an attempt to economize on their time and thus reach larger numbers of patients; in other words, that it was originally devised as a kind of desperate expedient and makeshift. That is not entirely borne out by its brief history, because, as so often happens, its birth was as much a matter of chance as design. Its earlier pioneers such as Emerson[2] and Pratt[3] were not psychiatrists or psychotherapists and chanced upon this mode of therapy in the treatment of tubercular patients. Even Marsh[4] and Lazell[5] did not approach group therapy purely from the point of view of expedience; in the case of Lazell he was seeking a means of reaching regressed patients. That, incidentally and subsequently, especially during the recent war, its advantages in reaching numbers of patients was recognized, in nowise establishes its origin as a pure makeshift.

Misconceptions which arise from a poor perspective must inevitably lead to rivalries between schools of psychotherapy. This is especially true in the failure to realize that psychotherapy in itself is a kind of spectrum and that particular segments of the spectrum apply optimally to particular levels of psychopathology. Naturally, there is considerable overlapping, too. Such a statement looks to a time when specific indications and contraindications for psychotherapy based on a knowledge of psychopathology are so well worked out that a fairly exact prescription for the patient's therapy can be made. Such a point of view is not sufficiently appreciated even in certain authoritative circles, as witness the following quotation:[6]

> "Because so little is known about group therapy and because so many forms are employed, it is obvious that it is very difficult to assess and compare successes and failures. We have group therapies where the group is regulated by itself and the therapist acts as a catalyst. Other group therapies depend on leadership. Again others are actually nothing more than instructive lectures given to a group of people. It is interesting that all the group therapies which I am acquainted with even the most successful ones, can not compete with faith healing . . . Group therapy should be the answer to many of the present day psychiatric difficulties, because a fairly large number of patients could be treated simultaneously. Therefore it is interesting that even though a good deal of experimentation has been done with it it is still not very popular, most likely because no method has yet been found to compete successfully with the individual treatment procedures."

"Actually nothing more than instructive lectures," echoes a bias that has gained wide currency. As frequently happens, the pendulum swings back to a presumably outmoded method of treatment with a new conception and some new "twist." This has happened with hypnotherapy. This must happen, too, with the role of education. The question of education will have to be revaluated with regard to its place in mental health and mental ill health.

Time was when we naively assumed: "Only make the means of learning accessible to people; only multiply the printed word and education will become universal." We had not properly taken into account the factor of motivation. For, despite the present-day suffocating profusion of the printed word, despite the radio and other present-day means trumpeting their information and misinformation to the world, if the Gallup poll is any kind of reliable index there is surprisingly little education prevalent—often in unexpected quarters.

But education, in the sense of biological

conditioning, is not the mere summation of facts and figures, although as part of the amalgam it constitutes factual data can be extracted from it in considerable quantity. Neither is education a time interval spent in designated halls of learning, which interval is formally certified to by designated persons and institutions.

Education in its true and biological significance means the acquisition of a broad perspective of the surrounding world leading to adequate attitudes and beliefs. It imparts a sense of relationship of man to man and to the universe he inhabits. It encompasses mature judgment in the light of abiding values. It is one means by which that currently much-bandied about desideratum, "emotional maturity" is acquired; also emotional stability, a stability which is not founded on insensitivity, but which, rather, is the fruit of a profound appreciation of the human scene, its significances and connotations.

Have we swung so far in psychotherapy in our preoccupation with the manipulation of instinctual drives and affects as to lose sight of and generate a contempt for the role of conditioning and "education" in the maintenance of psychic homeostasis? Freud did not entirely lose sight of it when he voiced his hopes for the "future primacy of the intellect," in man's motives and behavior.

The contempt for pedagogy as an instrument of therapy is unwarranted on still other grounds. It is not difficult to demonstrate that what transpires in the class or the group of the skillful pedagogue is something more than mere exposition, and it should be recalled that it is often said of a professor or instructor, "he certainly knows his stuff, but he just can't teach." For it cannot be denied that what transpires in the class of the skillful pedagogue is a process akin to the transference of psychotherapy. The process of learning is not merely one of passive absorption, for its most powerful implement is motivation, and the most successful teacher consciously or unconsciously comes to employ it through the transference relationship.

The pedagogue is more concerned with the quantity and quality of the knowledge acquired by his students than the transference process *per se;* the group therapist quite deliberately attempts to enhance and manipulate the transference process though not entirely ignoring the therapeutic value which inheres in intellectual growth and perspective. That there is considerable overlapping of both disciplines cannot be considered discreditable to group psychotherapy.

It must be emphasized that group therapy is not merely an adjunct to individual psychotherapy. It does not appear sufficiently evident to many that it is the therapy of choice at certain levels of pathology. Mental and emotional disorders do not invariably arise at the deper levels of psychopathology, nor do they always proceed primarily from maldisposition of instinctual energies. "A Paranoiac"[7] has cited a number of interesting and amusing examples of personality disturbances originating from misapprehensions on the cognitive levels of psychic functioning. In the following case example it may be seen that that order of psychopathology can lead to dire consequences quite as much as the deeper instinctual disturbances.

Mr. A. was a little man in his sixties who had developed gastric symptoms, having suffered a sudden rupture of a peptic ulcer and an emergency operation had barely saved his life. He was found to be the epitome of the henpecked husband. A more subdued and brow-beaten male could hardly be imagined and overshadowing the entire picture was the domineering, disciplinary Mrs. A. She was the second oldest in a sibship of seven sisters. Her father, a widower, arrived in this country with his bevy of daughters when Mrs. A. was in her early teens. She had practically no schooling, having adroitly outsmarted the truant officers. However, in the recurrent economic depressions of the last part of the 19th and the early part of the 20th centuries there was considerable need for her scanty earnings. The father was a docile, ineffectual person, who, faced with the task of raising seven obstreperous daughters without the assistance of a wife, apparently threw up his hands in complete surrender and resignation. It is certain the girls quarrelled and bickered among themselves *ad nauseam.* In this setting and probably also by a variety of incidental and accidental circumstances, Mrs. A. may be seen to have adopted a life philosophy which may be paraphrased somewhat as follows: "If I have nothing to do with the 'other guy' he cannot harm me. I must look out for myself, and what the 'other guy' does and how he fares is no concern of mine. I want nothing to do or know of matters that do not touch me, and if I concern myself not with anything outside myself and know not what transpires about me no evil can assail me." Mrs. A. thus demonstrates that the state of pristine ignorance is sometimes an active process which has to be labored for to maintain pure and unsullied by alien information and

"stuff." In fact, Mrs. A. sometimes boasted she did not think and cogitate or make plans as some misguided people are wont to do. Any question which implied the fulfilment of a personal obligation by her was apt to be countered with the stoccato reminder to tend to one's own business. This philosophy, in any case, served Mrs. A. as an effective insulation, and her personality thus remained maximally insulated.

A personality cannot remain absolutely insulated in society, for other strong instinctual drives urge in a different direction. For example, marriage and a family, because of which "the other guy" comes to occupy a more preferential position than originally calculated. However, the insulated personality never concerns itself with such inconsistency, for the intellectual exercise necessary to its solution is alien to its nature; and thus, the insulated personality cannot realize that in having acted so contrary to the original intent the wall of personal insulation has been made slightly porous.

After their marriage Mr. and Mrs. A. established a small retail business in which they were quite successful. But Mr. A. soon found himself submerged under a barrage of orders, reprimands, brow-beatings, belittlelings, and every manner of conceivable insult from which he has never emerged. Even when his two daughters reached maturity he found no champion for his cause, for the three formed an iron-bound matriarchy and gynecocracy and Mr. A. was more deeply submerged than ever.

Having been successful in the business by methods and management, which, though honorable enough, would not have earned any commendation from better business bureaus, Mrs. A. arrogated all the credit to herself. Consciously or unconsciously, in her mind her close adherence to her philosophy, epitomized in that shining motto, "it pays to be ignorant," had been amply vindicated. It was not long before one arrived at the realization that Mr. A. was not the bearer of the original or most important psychopathology. The disease and pathological entity was constituted by the family as a unit, and the nidus of the disease process and source of infection was none other than Mrs. A.

When a slump came in the business Mrs. A. always had a convenient scapegoat. In no way could the lesser income be attributed to deficiencies in her management or poor economic conditions. Such a conception would have violated her self-image. The adversity was invariably ascribed to Mr. A's bungling and ineptitude. Be that as it may, the true reasons for any business *contretemps* were apparent to Mrs. A. Obviously Mr. A. as the "other guy" was helping himself to the contents of the cash register. For what purpose? To support a certain lady. Certainly! Some of the customers had informed her of seeing Mr. A. in that lady's hotel. From what was known of Mr. A. such an escapade was inconceivable, violating every tenet of sound psychological reasoning. And, furthermore, it was highly doubtful that the business in its palmiest days could have supported such a lady in the style to which she was accustomed. One could demur at this allegation only at the risk of indicting Mrs. A. as an outright liar.

Serving as a commentary on the dynamics of *folie a deux,* or *trois,* or *quatre* was the concurrence of opinion of Mrs. A. and her older daughter about Mr. A's playing the horses, another of his alleged depredations. Well, if the man found some pleasure and compensation in betting small sums why deny that to him? Small sums, nothing! Five and ten dollars a day and even twenty-five, and by way of proof the daughter and her mother deposed they had seen him at some distance sideling up to a newspaper stand and making a hurried transaction with the man. Seeing his wife and daughter approaching, Mr. A. had made a speedy getaway. They, wife and daughter, then went up to the newspaper man and told him that if he did not immediately return the money to them they would call the police. The man silently refunded two dollars. This certainly sounded like incontroverible truth, but it was altogether inconsistent with the behavior of the self-effacing little Mr. A. The daughter, privately, was asked: "Were you there yourself at the time?" She hedged. After some further persistent questioning she finally admitted she was not present at the time, but that her mother had informed her of the incident of the two-dollar refund.

There were many other characteristics demonstrating Mrs. A's insularity, consequent immaturity and paranoid reactions toward the "other guy." If, for example, Mrs. A. momentarily misplaced her diamond ring or other valuables, even her daughters, despite their well-nigh organic attachment to their mother, were not above suspicion (again, both the daughters' marital adjustment is another story). Many asocial characteristics and mannerisms in speech and deportment also resulted. When some acquaintance related some incident or event Mrs. A. frequently interrupted saying, "no," then proceeded to relate the same occurrence giving precisely the same data, much as a child insists on holding the center of attention and at the same time, making light of the "other guy's" capacities and abilities.

In Mrs. A's case one may postulate theories about masculine protest, oedipal situations, penis envy and castration complexes. But it would not appear to the impartial observer that the psychopathology resides primarily within the skin. It lies primarily outside of the organism in the faulty interpersonal relationships, in the defective orientations and in poor social conditioning. It lies predominently in the plan which Mrs. A. adopted early in life, which for her became a fixed set by which she has lived and which she

has lived up to with singular devotion. In the goal of remaining as unaware as possible of the "other guy," of having no truck with him and remaining as ignorant as possible she has achieved amazing if not praiseworthy success. This situation conforms far more closely to the Adlerian concept of the "life plan" or "life style" than to the concept of deeper instinctual or emotional disturbance. We are not yet fully accustomed to thinking in terms of suiting psychotherapeutic approach to the level of psychopathology predominantly involved, and in all situations we insist on the grand technique of individual psychotherapy exclusively. Even if Mrs. A. were treatable by psychoanalysis one wonders what would be the fate of the supernatant intellectual hiatus.

The educational role of group psychotherapy, then, may be one of the most important therapeutic functions, and from our point of view not lightly to be dismissed. It is possible to cite numerous examples in which a process of preparation must precede individual psychotherapy. What does observation of the usual psychiatric patient reveal? In one way or another, despite much initial resistance, he has finally mobilized enough courage to consult a psychiatrist. He sneaks into the doctor's office, if possible, by the biways and alleyways as if *en route* to a sorcerer's den. Finally, he finds himself closetted with a strange man who makes quite unusual requests of him. The patient has no idea what to expect. If he could concretize and verbalize his vague expectations they probably would be that the doctor will feel the bumps on his head, would administer a simple "twist of the wrist" to his spine or head; would try out some strange electrical gadget on his head, look deeply into his eyes and read his thoughts, or, at any rate, give him some strange nostrum or potion. When, instead of such procedures, the doctor tells him to go ahead and state what is in his thoughts, and so much of the burden of treatment is thrown right back on his own shoulders, many of the patients are actually insulted, at least rendered highly uncomfortable. It is, at any rate, all very weird to the patient.

However, in group therapy, in the protection that the presence of his fellow patients provide he finds a much more natural setting. While he preserves a kind of anonymity he can at the same time hear and see that his own case is not so unique and that he has a great deal in common with the problems and difficulties of his fellow patients and classmates, and he is thus gradually brought out of his isolation and gradually induced to ventilate his own emotional problems. The class atmosphere is much more of a natural setting than the one in which he finds himself when closetted with a strange inquisitor. It has, indeed, far greater verisimilitude, for personality is to a very large extent the product of the social scene about us. Murphy[1] has put it this way:

"But for the most vital purposes a cell must be understood as an aspect of the life of an organ and the organ as an aspect of the life of man. In the same way personality must be understood as an aspect of the social process; it cannot in most cases, be considered as a self-contained unit. Individually we balk at this fact, for it is very deflating; nevertheless we are reflections of a broad social process."

Obviously disorders which have their origin, at least in part, in social interrelationships are best treated in the setting from which they arose. As one of the direct benefits of group therapy we may see that at the very least it is a good preparation for intensive individual psychotherapy. This can be illustrated by the following case history example:

B.C. was a young matron who had suffered a schizophrenic breakdown and had had one period of state hospital commitment. She was now out on conditional release. Required to return to the clinic for periodic check-up she is found exceedingly tense and uncomfortable. Asked about herself she gives a halting, very laconic summary of symptoms, and from there on any attempt to elicit biographical or psychological data meets with absolutely no success. Asked to talk about herself she is rendered extremely uncomfortable. "But what shall I say? I've told you everything." The best she can manage is to scrape up additional data about her symptoms, as if, as is usual in such cases, the individual believed the very accretion of such signs and symptoms, this continual piling of Ossa on Pelion, will of itself miraculously effect a cure. However, it was suggested that she attend group psychotherapy class. Two days later she attends such a session wherein the nature of mental illness, the injustice and groundlessness of the stigma are dealt with. The following day she is seen in individual interview. She now brings along notes she has made of her interim thoughts as she has been directed to do before but which she has not carried out until this interview. She now also relates many traumatizing incidents of her childhood. Another thing

which greatly bothered her, she relates, was her resentment toward her husband and mother for having had her committed to a state hospital, "but," she hastens to add, "I wrote this down before I had been to the class. Now I don't feel that way any more."

It is noteworthy that now she not only produces material more abundantly and freely, but her voice is louder and more steady, and her manner indicates greater self-assurance.

From the foregoing example it may be seen that not only may group therapy serve as a preparation for individual treatment but that it also acts as catalyst, speeding up and intensifying positive transference, helping to resolve negative attitudes and negative transference. That this should be so is not surprising in the light of what is already known of group behavior. Contrary to the critic of group therapy quoted earlier in this paper there is some scientific basis for this form of treatment, and to mention only a few such references we might cite freud's[8] "Group Psychology and the Analysis of the Ego," McDougall's[9] "The Group Mind," LeBon's[10] "The Crowd," Redl's[11] work and so forth. One will find in these works some of the fundamental reasons why group dynamics are effective in treatment. While it is true the field is in great need of further experimental investigation it would be a gross understatement that little or no psychological or scientific rationale is known for its employment at the present time.

As to the character of approach it is to be noted that there is a wide range of intensity of group therapy. The polarity of this range is marked by the repressive-inspirational at one end and the more or less analytical method at the other end. Marsh[4] who worked with groups as large as two hundred apparently achieved a mild form of inspirational therapy, while Schilder[12] with groups of 4 to 8 selected patients conducted intensive psychoanalytic group psychotherapy. As to method of implementation a division has already been made into analytic forms and didactic forms of group therapy. The distinction cannot be hard and fast, for much depends on content. The use which the therapist makes of his materials determines in large part how didactic or how analytical the treatment turns out to be.

Teaching or pedagogical methods are administered in a variety of ways. In many instances the therapist will depend on the patients bringing problems to the class for general discussion, therapist acting as leader and moderator, and, where indicated, makes appropriate interpretations. It may be remarked that such a regimen is successful when dealing with an unusually articulate group of patients who harbor strong resentments. In most other cases it devolves on the therapist to produce stimulus material to set the class into action. Such stimulus material is usually furnished by therapist's delivering a series of talks or lectures with subsidiary procedures combined in a variety of ways. Now, it would seem obvious that if the therapist delivers a series of lectures these should be reasonably well organized and planned. If the therapist has carefully planned this material and has designed it to be maximally stimulating to and provocative of patients' emotional responses and abreactions, it is patent he may as well commit them to writing. The fact is, that many a treatise and textbook has had such an origin. An instructor gives a series of lectures which is well received and is for that reason induced to collect and edit them for publication. This is the case in group therapy employing the medium of a textbook.

The writer has used such a textbook and feels there are a number of advantages from its use. These advantages are:

(a) The textbook provides a systematic, planned and logical sequence of material which serves to stimulate patients' associations, as well as serving the purposes of education and re-education in the broadest sense.

(b) Instead of patients being passive auditors as they would be at lectures they become active participants when they read aloud from the book, recite, comment and associate to the material.

(c) The textbook furnishes material which does not depend on therapist's forensic skill for effectiveness; which is always available and is especially useful in retaining continuity of purpose and method when a new therapist is required to take over.

(d) Although it would not seem possible to standardize the practice of group psychotherapy in all its phases, use of a textbook supplies the nearest approach to a standard and basis of comparison as between one class and another.

(e) The printed word carries some additional authority. Of course, the printed word is capable of great abuse. But in this case, employed in the interest of therapy, the strategem is justifiable.

(f) Silences during class sessions have been

noted by several group therapists. It is believed by Foulkes[13] that silence is not always an evidence of resistance. But whatever the silence of the group may connote it appears to be disconcerting. With the textbook always at hand to turn to, the therapist need have no concern about these arid interludes in the class sessions.

No grades are given and no constraint is exercised. While it is very desirable to absorb knowledge that is not the main desideratum. Nor is the quantity of material dealt with in any given session a great concern. If in the entire session only one little phrase of the book has been dealt with, which has led to copious comment or abundant associations; in which patients' attitudes and beliefs have been objectified and commented on liberally by the whole class, it is deemed a very worthwhile session, indeed. At the end of each chapter is a list of review questions by which the preceding section is more or less recapitulated and summarized.

But the group therapy need not be confined to the textbook. As already indicated, the text performs the function of stimulus, calling forth patients' responses and reactions, often stimulating the production of deeper material and associated abreaction. But in addition to this central thread, this nucleus of the classwork, there are outside assignments for book reviews, and this in itself would constitute a form of bibleotherapy. Symposia and debates may be arranged and conducted. Written autobiographies may be called for. Even a well-worked up case history of one of the class members may be discussed and commented upon by the whole class. This has been found very effective.

Results of group psychotherapy are not easy to assess. However, the clinical impression is not a totally unreliable guide. The factors which make for improvement in any given patient seem to be multiple and of some complexity. Many patients, invited to the class, appear once or twice and then drop out of sight; but, clinically, of those who attend regularly for any extended period of time, with only few exceptions, practically all show definite improvement. This observation is corroborated by psychological testing[14] which shows gains in personality organization in all patients with few exceptions. In one patient in the writer's group the improvement has been spectacular and dramatic.

To the skeptical inquisitor we can do no better by way of conclusion than again to quote from Murphy:[1]

"It is quite likely (as in a dialectical moment) selfhood will be better understood when reference is made to the primordial non-self matrix from which arises, and the synthesis, the capacity of human nature to function at self and non-self levels at the same time, to alternate when it so desires, may prove to be an enrichment of personality far greater than that which the cult of self-contained, self-defined individuality can grant."

REFERENCES

1 Murphy, G.: "Personality," *Harper and Bros.*, New York, 1947.
2 Emerson, W. R. P.: "The Hygienic and Dietetic Treatment of Delicate Children by the Class Method," *Boston M. and S. J.*, 164:326-28, 1910.
3 Pratt, J. H.: "The Principles of Class Treatment and their Application to Various Chronic Diseases," *Hosp. Social Service*, 6:401, 1922.
4 Marsh, L. C.: "Group Treatment of the Psychoses by the Psychological Equivalent of Revival," *Ment. Hyg.*, 15:328-49, 1931.
5 Lazell, E. W.: "The Group Treatment of Dementia Praecox," *Psychoanalyt. Rev.*, 8:168-79, 1921.
6 Hoch, P. H.: "Summary of Symposium Findings," in "Failures in Psychiatric Treatment," New York, *Grune and Stratton*, 1948.
7 Paranoiac, A.: "Paranoia from the Subjective Point of View," *Psychoanalyt. Rev.*, 13:200-09, 1926.
8 Freud, S.: "Group Psychology and the Analysis of the Ego," *International Psychoanalyt. Press*, London, 1922.
9 McDougall, W.: "The Group Mind," *Putnam*, New York, 1920.
10 LeBon, G.: "The Crowd," *Unwin*, 1922.
11 Redl, F.: "Group Emotion and Leadership," *Psychiatry* (White Foundation), 5:573-96, 1942.
12 Schilder, P.: "Results and Problems of Group Psychotherapy in Severe Neuroses," *Ment. Hyg.*, 23:87-98, 1939.
13 Foulkes, S. H.: "Group Analytic Psychotherapy," *Grune and Stratton*, New York, 1948.
14 Klapman, J. W. and Lundin, W. H.: "Textbook-Mediated Group Psychotherapy with an Objective Appraisal of Results," In publication.
15 Klapman, J. W.: "Group Psychotherapy; Theory and Practice," *Grune and Stratton*, New York, 1946.

*The Psychiatrist on the General Hospital Ward**

CHARLES B. WILKINSON, M.D.
Denver, Colorado

Patients presenting psychogenic problems on the general hospital ward often cause the ward personnel concern in diagnosis and treatment. Frequently, this difficulty is augmented by an insufficient psychiatric consulting staff. At Colorado General Hospital this problem has been met by the Division of Psychosomatic Medicine.[1] This department's functions have been widened in order to encompass more and more patients in need of care. At present the assignment of a psychiatric resident to each major division of the hospital alleviates a previously evident deficiency. The psychiatrist, together with his other duties, works on the ward along with the regular staff and relieves the troublesome method of requesting consultations by assuring the staff man of immediate disposition. Other advantages became apparent with this system for it made the hospital psychiatrically conscious and created a more harmonious working relationship.

The psychiatrist usually makes ward rounds along with the medical resident and several cases have been promptly seen and treated that otherwise might have gone unconsidered. Needless to say, the psychiatrist finds his load much increased with the production of satisfactory results.

Duties

The specialties are fraught with psychiatric complications that occur at varying frequencies and the attending man may be caught unprepared. The gynecologist must be forever alert to cystoscopy addiction; the urologist to impotence and premature ejaculation. The dermatologist faces a host of skin ailments showing close inter-relation to constitutional irregularities and personality problems. A reconsideration as to the feasibility of major surgery is sometimes necessary when examination reveals evidence of depression, senility, or a latent schizophrenic process. On the other hand, surgery may be postponed if it is felt that it might be a precipitating factor in a delayed convalescence on a neurotic basis. Excitement states which often occur in psychotic patients have to be handled in order that an open ward is not disturbed. One of the most important functions is helping in the decision of the baffling question: "Is it organic or is it functional?" The psychiatrist can, in these and many other instances, be a welcome ally in studying difficult diagnostic problems.[2]

It is then obvious that the functions of the psychiatrist on the ward embody three groups into which psychosomatic medicine, for our purpose, may be roughly divided:

1) An emotional illness accompanying an organic disease.
2) An emotional illness precipitated by the overwhelming results of a chronic or acute debilitating disease.
3) An organic illness in which the etiological factors are found in psychogenic traumata.

Psychotherapy is utilized on the ward, and/or out-patient care is offered, in all cases in which improvement is anticipated. The psychiatrist too is placed in a position of choice in that he is able to "pick up" emotionally influenced physical illness before the production of irreversible organic pathology.

Methods of Handling

The fact that the psychiatrist is not the only physician to practice psychotherapy is well known; the conscientious family doctor, as well as the interested specialist, frequently can handle many problems that create difficulty in everyday living. Unfortunately, many physicians are often unaware of this. The psychotherapy referred to in this instance is of the superficial kind, consisting of offering the patient understanding, information, and reassurance. Deeper treatment should be left for the psychiatrist as gastric resection is left for the surgeon, or electrocardiograph interpretation for the cardiologist.

In the modern hospital, specialization and

*From the Division of Psychosomatic Medicine, Department of Psychiatry, Colorado University Medical Center, Denver, Colorado.

limited time are potent factors in the production of discomfort and iatrogenicity in the difficult-to-diagnose patient. The competent physician must be aware of more than the physical complaints offered by the patient. Frequently, when the patient is allowed the freedom of expression, traumatic psychogenic factors antedating symptomatology are exposed. Likewise, some insight into personality characteristics may disclose a secondary gain which may be present in a delayed illness.

Treatment need not necessarily be carried on by the psychiatrist if after evaluation it is felt that it can be done by other personnel under the former's direction.[3] The following cases reveal the close liaison and cooperation that were necessary to effect improvement.

Case Histories

Case 1: S.J., a 60 year old, white, female housewife, entered the surgical service of the hospital on October 21, 1948 with a history of alternating diarrhea, constipation, nervousness and fatigue over a two year period, with rectal bleeding for two months. During the year prior to entry, the calibre of her stools became decreased and also bloody. Vague abdominal pain was present and a weight loss of twenty-seven pounds occurred during a course of six months. Physical examination was negative except for rectal and pelvic examinations which revealed on the former a small, firm, tender, fixed (particularly anterior) mass and palpable 3-4 cm. within the sphincter. The posterior vaginal vault was firmly bound and a mass palpated. Biopsy of the mass showed adeno-carcinoma. On November 4, 1948 she went to surgery and a combined abdominal-perineal operation was done. The tumor mass was found to be firmly bound and was about the size of a grapefruit. The uterus was absent and a small nodule was found in the liver. Following this a colostomy was done. Postoperatively the course was uneventful; by November 4, 1948 enemata brought forth a clear return. By November 30, 1948 the patient could handle her colostomy without difficulty.

Psychiatric history: This patient came to the attention of the Division of Psychomatic Medicine because the intern on the service felt that there were some undue fears of surgery. This was quite true, but a number of other difficulties were also present. Two years ago, shortly after the patient and her husband purchased a small house, the husband lost his job because of his age and illness. Her daughter and son-in-law, along with their four children, moved in and took over the payments in order to save the home. This daughter had always been a source of irritation and the son-in-law was considered a cantankerous individual. Thus besides the care of the sick husband, she had the management of four grandchildren as well as domestic duties. Because the necessary blood required before surgery had not been supplied by her family, considerable hostility towards her children was present. In addition, she was concerned about the necessity of a colostomy since she had had a friend who lived only a few months following a colostomy and was particularly unpleasant to be around because of the odor.

Treatment: This patient was seen four times by a senior medical student up until her operation, at which time the latter left the service. Interviews were carried out at the bedside and were from fifty to sixty minutes in duration. After each interview the student reviewed the material with the Division of Psychosomatic Medicine resident assigned to the ward. Principally, the patient did the major portion of the talking; predominantly it concerned her resentment toward her daughter and son-in-law. She also felt that she and her husband would be much better off in a small apartment of their own, in which case they would live off their old age pensions. Social Service began making preparations for such an arrangement. It was also brought out that at the time her daughter moved in she experienced nausea and vomiting and gastric upsets at least one and a half years prior to the onset of symptoms referable to her carcinoma.

The patient went to surgery with full acceptance of the fact that a colostomy was necessary. A few days before this, her relatives had placed a substantial amount of blood in the bank. Her progress with the exception of icterus was uneventful. She was seen by the resident on two occasions following the operation, once midway postoperatively and again just before discharge. On each occasion she was pleasant and grateful and was not perturbed by her change in

bowel function. On the last visit she had changed her mind about moving out and had decided to remain with her daughter and son-in-law because she felt they needed her. She was also interested in returning on an out-patient basis in order that she might be rendered more capable of living with her son-in-law, because through recognition of her own emotional problems she was capable of noting some insecurity on his part.

Comment: Exaggerated fears of surgery are not uncommon in many cases; this was particularly true with this patient because her only contact with a colostomy had been an unpleasant one. Simple reassurance about the physiological adaptation of one portion of an organ assuming most of the function of a missing part was of the utmost importance to her and allayed most of her apprehension concerning it. Basically this patient showed tremendous insecurity, living in what seemed to be a hostile environment and being supported by the very individuals who generated her resentment. Her insecurity mounted at the thought of being unwanted for she felt she would become a social outcast because of the colostomy. However, the opportunity to express her resentment for the first time to a receptive person allowed an outlet for her tension; thus instead of feeling hostile towards her "tormentors," she could accept them as a mere annoyance. Her desire to return to the same environment is probably a healthy attitude, in that many individuals in this age group can conceive of life as being more worthwhile if they can consider themselves as being of service.

This patient could probably have undergone surgery without undue anxiety; however, without an understanding of her immediate conflicts, convalescence may have been delayed and her return home might have resulted in a recurrence of symptomatology. These symptoms would probably have been of a conversion (conversion hysteria) type that would have made her an exceedingly difficult diagnostic problem in the out-patient clinic.

Case 2: L.F., a 17 year old, white, school girl, was treated for a stitch abscess following an appendectomy in October 1947 in her home town. One month later she suffered pain across the hips and the posterior portion of the upper thighs. Her appetite decreased and flatulence was marked. In December 1947 light colored, loose, mucoid, blood-streaked stools were apparent, increasing in frequency until she had to stop school. By the first of the year diarrhea had become worse and crampy abdominal pains were present, requiring hospitalization again. Her therapy consisted of Kaolin preparation, liver extract and vitamins. Because no improvement was noted, she was sent to a private hospital in Denver the latter part of February 1948. A proctoscopic examination revealed a firm spastic bowel wall with ulceration that bled with ease, and there was pus in the lumen. A barium colon enema showed gas in the lower bowel and generalized spasticity of the colon without filling defects. The stool examination exhibited pus and the culture was positive for E. coli and staphylococci, but a blood culture was negative. Temperature of 104 degrees on admission; hemoglobin 9.2 gm.; R.B.C. 3.21 million; and W.B.C. 13,400. A diagnosis of ulcerative colitis was made. Therapy consisted of sulfadiazine, iron, vitamins, and during her nine day stay she also received three 500 cc. blood transfusions. On discharge her temperature was normal as well as proctoscopic examination. Therapy continued after discharge.

Within three months (June 14, 1948), she was readmitted to the same hospital. Between discharge and readmission there had been a weight loss down to 80 pounds, diarrhea, fever, and low back pain. She was emaciated, bedridden, her legs were stiff and she cried when any attempts were made to move them. The R.B.C. was 1.75 million, hemoglobin 5.5 gm. She received four transfusions which caused an increase in both R.B.C. and hemoglobin. Therapy was the same as on the previous entry; but after no improvement over an eight day period, she was transferred to this hospital.

On entry here on June 29, 1948, her weight was 75 pounds, temperature 102 degrees emaciation and dehydration were marked. She was apprehensive and non-ambulatory. Tinnitus was present and abdominal peristalsis could be seen. In addition, she had three to six loose stools daily. Within ten days her weight dropped to a low of 69 pounds. R.B.C. and hemoglobin fell from 4.20 million and 11.5 gm. to 2.7 million and 8.5 gm. res-

pectively. Frequent small transfusions were necessary. A proctoscopic examination on July 10, 1948 revealed ulcerated, bleeding, swollen mucosa of the rectum and sigmoid, also a copious amount of pus. The blood culture was positive for Staph. Aureus; a culture of the feces showed Staph. Aureus, E. Coli, Str. Entercoccus and Str. Mitis. Plasma proteins were 5.18, serum calcium and phosphorous were both normal. Her therapy consisted of penicillin initially, later sulfathaladine and neoprontosil, autogenous vaccine, diodoquin and streptomycin. Utilized also were ventriculin; a high caloric, high vitamin diet; folic acid; liver extract; and frequent 250 cc. blood transfusions. Regular insulin was used for the appetite.

Improvement was slow but steady, and by early September her stools had decreased to one or two daily and were slightly formed. Temperature had remained consistently at 100 degrees and some weight gain was noticed. Physiotherapy was successful in getting the patient ambulatory again by relieving flexion contractures of the legs. On discharge November 24, 1948 she weighed 90 pounds.

Psychiatric History: The patient, the youngest child in a family of four, is small and extremely self-conscious of her size. She was considered reliable and friendly but emotionally labile and incapable of handling disappointments well. In school she threw herself wholeheartedly into extra-curricular activities. According to her mother, she was clean, meticulous and tried hard to please, particularly her mother. The father died when she was quite young; the patient's attachment to the mother had been considered extremely close and she had always confided consistently in her. In fact, she often remarked, "I want to get well so that I can go back to my mother. I'll never leave my mother." Mother, incidentally, is a tall, gaunt, masculine appearing female with close cropped hair. It is interesting to note that when the mother visited, she was frequently welcomed by the patient with an episode of vomiting. Further history revealed frequent bouts of diarrhea as a young child.

Her mother, in an effort to support the family, began teaching school five years ago in a nearby town and was consequently away from home except on week-ends. This created a greater feeling of insecurity on the part of the girl. This feeling had already been present to some extent because of her "only fair" scholastic record in comparison to that of the other siblings and because of her small stature. Shortly after recovery from her appendectomy in the fall of 1947 she became involved in a love affair and had sexual relations for the first time. Extreme guilt feelings followed, especially since her earlier plans were to become a missionary. However, more important, she felt that her mother could no longer love her because of her act. It was shortly thereafter that she was hospitalized for ulcerative colitis.

Comment: Ulcerative colitis, a severe chronic illness, is the end result of a constellation of factors, among which psychogenicity plays a large role.[4] Investigators in the field have been particularly impressed by the physical and emotional immaturity of patients with this disease.[5] As a rule they are markedly dependent on a parental figure, generally the mother who is usually a domineering person and may frequently encourage the dependency. The emotion produced is hostility which cannot be expressed because of a fear of a loss of this dependency; thus a vicious cycle is created. The conflict is channelized into symptomatology, and with the onset of a full-blown illness it may become camouflaged by the complaints of physical discomfort suffered in the disease. These patients present a personality that is extremely vulnerable because of the persistence of emotional immaturities and dependence on the parental figure; and a precipitating situation threatening security by a possible loss of this figure is frequently enough to initiate the process. The transmission of emotional stimuli over the parasympathetic system to the bowel has been adequately reviewed by Portis.

The brief psychiatric history given is enough to reveal the typical ulcerative colitis personality in this patient. Her meager attempt at emotional expression presented itself in the form of vomiting in the mother's presence. It is also interesting to note that her earlier expression of the same thing was with diarrhea. Her dependency, already threatened by a number of things, was finally stretched to the breaking point when her act of indiscretion prompted a feeling of loss of the mother.

Treatment: The illness being severe, no attempt at active therapy was made, as in her state the handling of traumatic material could cause a fatal relapse. Her need for a kind, sympathetic, accepting mother figure was adequately supplied by a female intern who immediately became aware of this need when she came on the service on August 16, 1948. During the intern's first week on the service several things occurred which were instrumental in establishing rapport and for which the patient probably held the intern responsible. They were the administration of blood transfusions, autogenous vaccine, and a change of therapy to include Neoprontosil and Sulfathaladine. From this point on progress was slow but steady. The intern left the service on November 24, 1948 but visited the patient on the average of three times a week.

After his discharge, the patient visited the physician approximately every two weeks, gained weight and got along nicely although she had returned to the same home situation. There was one bout of diarrhea that occurred in December 1948 and that was on the morning that she returned to the hospital for a medical seminar. It is noteworthy to mention here that the patient talked to the physician only of her progress, leaving out anything that might have been of a disturbing nature. It was as if she felt that she must pay penance to a kind figure and feared rejection if any mention were made of current difficulties. On one occasion she insisted upon leaving her home town alone to visit the intern. When last seen the patient weighed 103 pounds.

It is probable that she will have to be seen in the future for more intensive psychotherapeutic procedures.

The last case is different in that the patient was seen originally in the Division of Psychosomatic Medicine for out-patient care.

Case 3: B.G., a 21 year old, white, married female, was seen on ten occasions by a resident in the Division of Psychosomatic Medicine because of severe dysmenorrhea. Menstrual pain had its onset at the beginning of menstruation at the age of fifteen. Usually it was preceded by a headache, then a desire to defecate; following this she would "pass out." It was because she had a tendency to faint that her family felt that she had epilepsy; there was a younger sister in the family who suffered seizures. The patient is married and is the mother of three children. Her husband was described as an immature, dependent individual with poor intellectual endowment; and an extremely poor provider. He demanded sexual relations nightly, warning her that if she refused he would undergo drastic physical changes. She subsequently suffered dyspareunia and had never experienced an orgasm.

Shortly after the third interview (after her menses had started but ceased), she entered the Emergency Room in a semi-stupor experiencing severe pain. She was given Sodium Amytal grs. V intravenously and revealed the following information: She was considered the father's favorite child but only after an older brother, who was the favorite, was severely burned at the age of six. She resented this brother intensely because of the attention earlier shown him. She took his place after his injury and was taught welding by her father. So strong was her masculine role that she did not wear dresses until she was sixteen. (During childhood she was completely rejected by the mother). She fought all of the boys in her neighborhood and still bears some knife scars. A difference in males and females was first made clear to her at the age of ten; and when she made inquiries in the presence of some of her male playmates, she was teased for not having male genitalia. Later, when a number of soldiers were stationed in her home town, she became extremely frightened and often locked herself in her room. When her menstrual periods started, she was playing and fell astraddle a fence, scratching her leg; two hours later she began to flow. She carried a good deal of guilt about this incident, feeling that she had injured herself. At the age of sixteen she married a soldier but felt that her husband was taking advantage of her on their wedding night and became embarrassed and afraid. Because of the discomfort accompanying coitus and menses, she consulted the post physician who advised her to become pregnant. She followed his suggestion and became pregnant three times. She had difficulty with each pregnancy, each of which was characterized by foolish behavior on her part. On one occasion in midwinter, she climbed to the roof

of their cabin home to repair a leak, fell, and landed in a bed of rocks; however she did not abort.

After the abreaction of the above material, her menses re-started without pain. In the interviews that followed she revealed material substantiating that which had already been brought out under narcosynthesis. It was obvious that she never accepted her marriage as a responsibility but only as another game; nor had she been capable of accepting female characteristics. It was felt that her dysmenorrhea was on a functional basis, but she continued to have severe pain with her periods. Despite attempts at interpretation, her naiveté and lack of sufficient intelligence to grasp emotional insight obviated any further improvement and surgery was advised. This was done with the full recognition that the possibility of substitute symptoms was marked.

Hospital Course: On December 3, 1948 on the Gynecology Service, a presacral sympathectomy with sterilization and appendectomy was done. She began to menstruate on December 4, 1948 and did not complain of pain. She was seen once following surgery, was doing very nicely, and had experienced menses without pain.

Comment: This patient shows an early history of masculine identification with rejection of her own sex and anything feminine. Rejection by the mother provided her no adequate female figure for identification, and recognition from the father came only after an injury to her older brother. Guilt over a possible injury at menarche only enhanced her anxiety over the futile attempts at denying her sex. Her dyspareunia bears out the pattern as has already been mentioned. Surgery had a tremendous psychological effect, the sterilization probably more so than the neurectomy as she had no conception as to the nature of the latter. However, sterilization to her means no more children. There will be no basic change in her personality; and if the attitude of her husband continues, she may never have an orgasm. Neither dysmenorrhea nor dyspareunia has since been experienced.

Combined evaluation culminating in surgery produced relief in this patient, in addition to erasing certain doubts by the Gynecology Service as to the value of such a procedure. It also points out that in a case of this nature, the establishment of rapport is difficult without symptomatic relief, as anything accomplished in the insidious fashion necessary during the month would be erased with the onset of menses. A patient more intellectually endowed would be able to profit from psychotherapy at this stage.

Summary

The advantages of the presence of a psychiatrist on the wards of a general hospital are innumerable. Immediate disposition and treatment are possible, involving cases in which psychogenic difficulties may be accompanying, causative, or precipitating. Treatment itself is not always conducted by the psychiatrist, although it is under his direction. The three cases presented here demonstrate this as well as the cooperation necessary for improvement. The first case revealed how superficial psychotherapy aided an elderly female, about to undergo surgery, in understanding her home situation as well as in accepting her resulting altered function. The second case makes clear the combined medical and psychiatric management that resulted in improvement. The third case concerned a patient with a functional illness that cleared following surgery.

Wherein none of these cases illustrates long term therapy which is often necessary for a cure, such a presentation is not intended in this paper. Rather, the endeavor here is to make clear how relief of symptomatology may be obtained, to demonstrate the handling of complaints beyond the scope of the ward personnel, and to show how patients on the ward, unaware of their functional predicament, may be helped to recognize a need for treatment.

REFERENCES

1 Hunter, Harriot: "Psychiatric Liaison Work: A Twelve Year Survey," *J. Ass. Amer. Med. Coll.*, Vol. 23, No. 5, Sept. 1948.

2 Ebaugh, Franklin G.: "The Care of the Psychiatric Patient in the General Hospital," *Amer. Hosp. Assoc.*, Chicago, 1940.

3 Dyon, John M.: "The Psychiatrist in a General Hospital," *American Practitioner*, May 1947.

4 Weiss and English: "Psychosomatic Medicine," Philadelphia and London, *W. B. Saunders Co.*, 1947.

5 Daniels, George E.: "Psychiatric Factors in Ulcerative Colitis," *Gastroenterology*, Vol. X., No. 1, January 1948.

6 Portis, Sidney A.: "Idiopathic Ulcerative Colitis," *J.A.M.A.*, Vol. 139, No. 4, Jan. 22, 1949.

Mesantoin Toxicity

(A CLINICAL NOTE)

JOHN S. GARVIN, M.D. and FREDERIC A. GIBBS, M.D.*
Chicago, Illinois

Encouraging reports concerning the use of Mesantoin (3 - methyl 5, 5 - phenyl - ethyl hydantoin) as an anticonvulsant medication for grand mal and psychomotor types of epilepsy were published by Loscalzo[1] in 1945, and by Kozol[2] in 1946. Since then numerous investigators, David, et al,[3] Fetterman,[4-6] Clein[7] and Hunter[8] have confirmed these results. There were few side effects observed by the early investigators and these were mainly hypersomnia, slight ataxia, and a measles-like rash without blood abnormalities. No serious reactions were reported. Belinson[9] reported from a total of 176 patients a 5 per cent incidence of drug reactions to Mesantoin.

In 1930 phenyl-ethyl-hydantoin (Nirvanol) was reported by Pilcher and Gerstenberger[10] to cause dermatitis and occasionally leukopenia. There is a close chemical relationship between Mesantoin and phenyl-ethyl-hydantoin (Nirvanol). Recently reports concerning serious toxic reactions to Mesantoin have appeared. Ruskin[11] reported a case of dermatitis bullosa which resulted in death. Aird,[12] in a report concerning the use of Mesantoin, reported a death following its use. Frank and Holland[13] reported two cases of profound pancytopenia in patients receiving Mesantoin with one resulting fatality.

Harrison, et al[14] and Forster and Frankel[15] reported cases of fatal aplastic anemia following use of Tridione and Mesantoin, while Bloom, et al[16] have reported a case of aplastic anemia with recovery in a case on Mesantoin medication.

The present report deals with 225 patients who are or have been on Mesantoin therapy. Ten per cent were found to have had a serious reaction or sensitivity to the drug. Some of these patients have been on Mesantoin for a period of over two years. Three patients showing an initial sensitivity to the drug have been restarted on Mesantoin in smaller doses and one of these patients developed a severe hypoplastic anemia. The mild side effects have not been included because they do not constitute a serious danger to the patient. These patients were given Mesantoin following a schedule of 0.1 grams daily for three days and then increasing every three days by 0.1 grams until a dosage of 0.3 grams per day was reached. Some of the patients then took gradually increasing doses which varied individually.

TABLE I

Incidence of Reactions to Mesantoin (25 Patients)

	No.	*Pct.*
Mild Reactions (Severe rash without blood abnormalities or fever	3	1%
Moderate Reactions (Fever, generalized lymph-adenopathy, rash, without blood changes)	18	8%
Severe Reactions (Fever, blood abnormalities and systemic toxic symptoms)	3	1%
TOTAL	24	10%

For the purposes of the present study, toxic reactions to Mesantoin have been divided into three clinical categories (Table I), The first type, which we consider as mild, consists of a severe generalized erythematous rash with pruritis, but without fever, lymphadenopathy or systemic symptoms. This usually develops with the first few doses of Mesantoin medication and disappears within 48 to 72 hours after discontinuance of the medicine.

The second type of reaction, classified as moderate, is the most frequent (8 per cent). It consists of a period of lethargy and general malaise of 24 to 48 hours followed by a rash and a fever of 100 to 102 degrees F. There is usually an accompanying lymphadenopathy and sore throat, but the blood count is normal. In all 18 cases when this reaction was encountered the medication was discontinued immediately upon appearance of the rash and clinical recovery occurred within four to seven days. It was considered

*From the University of Illinois College of Medicine, Department of Psychiatry, Illinois Neuropsychiatric Institute.

too hazardous to continue medication in order to determine if blood abnormalities would develop.

The third type of reaction, classified as severe, occurred in one per cent of the present group of patients. It is characterized by a rash which may develop suddenly and is associated with a high fever up to 103 to 104 degrees F., lymphadenopathy, sore throat and marked lowering in number of red and white blood cells. The rash may not be present at the height of the toxic reaction, but usually there is a history of a rash when the Mesantoin was first started. Frequently there are early symptoms such as general malaise, epistaxis and frequent bruises which the patient may ignore. The blood damage may be extreme, both red and white cells being reduced. One patient had a count of 920,000 red blood cells per cmm. The bone marrow was hypoplastic. This case has been reported in detail by Best and Paul.[14]

Comment

Recently cases of aplastic anemia and agranulocytosis following Tridione (trimethadione) therapy have been reported by Mackay,[18] Greaves,[19] Carnicelli and Tedeschi,[20] Braithwaite[21] and Gayle.[22] In our series of patients on Mesantoin, seventeen had been on Tridione previously. Twenty-three per cent (four patients) showed a moderate toxic reaction of rash and fever. Eight patients were on Tridione and Mesantoin simultaneously. Out of this group only one patient had a slight rash without fever or blood abnormalities. The total number is too small, of course, to draw definite conclusions; however, caution would seem to require that these drugs be used in combination only when seizures cannot be controlled in any other way. Fortunately, because of the different therapeutic properties of Tridione and Mesantoin it is seldom necessary to use them together. Tridione is most useful in cases of petit mal while Mesantoin is rarely effective in petit mal. Mesantoin is of most value in grand mal and psychomotor types of epilepsy.

There are several possible explanations to account for the fact that when Mesantoin is used with Tridione the incidence of reactions increases. Since both drugs may produce bone marrow damage the two together might be expected to have an additional toxic action, or the two drugs might combine to form a third substance of higher toxicity.

Summary

There is available evidence in the literature that in some cases Mesantoin acts as a toxic depressant on the hematopoietic activity of the bone marrow with production of aplastic anemia. There is evidence also of a similar action by Tridione. Out of a series of 225 patients reported here 8 per cent had a moderate toxic reaction to Mesantoin and 1 per cent had a severe toxic reaction with associated blood damage. The use of Mesantoin following Tridione therapy increases the incidence of reactions. The use of Mesantoin and Tridione simultaneously is considered hazardous because both produce similar toxic effects. It is suggested that patients on Mesantoin therapy be clinically examined monthly for evidence of toxicity and that patients who have shown previous sensitivity and those on a combination of Mesantoin after or with Tridione receive hematological studies at periods not to exceed one month. The occurrence of sensitivity reactions to Mesantoin should not preclude its use for it is a valuable antiepileptic substance. As with many other useful drugs, however, safety requires that the patient who is taking it be supervised by an alert physician.

REFERENCES

1 Loscalzo, A. E.: "Treatment of Epileptic Patients with Combination of 3-Methyl 5, 5-Phenyl-Ethyl-Hydantoin and Phenobarbital," *J. Nerv. and Ment. Dis.*, 101:537-544, 1945.
2 Kozol, H. L.: "Epilepsy; Treatment with New Drug: 3-Methyl 5, 5-Phenyl-Ethyl-Hydantoin (Phenantoin)," *Am. J. Psychiat.*, 103:154-158, 1946.
3 David, N. A., Durkin, L. S., Margason, M. L. and Viele, W. A.: "Methyl Hydantoin (Mesantoin) in the Treatment of Epilepsy," *J. Nerv. and Ment. Dis.*, 108:118-128, 1948.
4 Fetterman, J. L. and Weil, A. A.: "Practical Aspects of Epilepsy (With Special Consideration of Epilepsy in Children)," *M. Clin. North America*, 31:1273-1288, 1947.
5 Fetterman, J. L.: "Treatment of Epilepsy," *Mod. Med.*, 16:35-38; 98-110, 1948.
6 Fetterman, J. L. and Victoroff, J. V.: "Mesantoin in Epilepsy: A Three Year Study," *Dis. of Nerv. Syst.*, 10:355, Dec. 1949.
7 Clein, N. W.: "New Anticonvulsant in the Treatment of Epilepsy; 3-Methyl 5, 5-Phenylethylhydantoin (Hydantal)," *Northwest Med.*, 44:210-212, 1945.
8 Hunter, H.: "Treatment of Epilepsy," *Dis. of Nerv. Syst.*, 9:203, July 1948.
9 Belinson, L.: "Incidence of Sensitivity to Mesantoin: Effect of Dosage," *Dis. of Nerv. Syst.*, 9:252-253, 1948.
10 Pilcher, J. D. and Gerstenberger, H. J.: "Treatment of Chorea with Phenyl-Ethyl-Hydan-

toin," *Am. J. Dis. Child.*, 40:1239-1249, 1930.
11 Ruskin, D. B.: "Fulminating Dermatitis Bullosa Medicamentosa Due to 'Mesantoin,'" *J.A.M.A.*, 137:1031-1035, 1948.
12 Aird, R. B.: "The Treatment of Epilepsy with Methylphenylethyl Hydantoin (Mesantoin)," *California Med.*, 68:141-146, 1948.
13 Frank, C. W. and Holland, J. F.: "Pancytopenia from Mesantoin," *J.A.M.A.*, 138:1148-1150, 1948.
14 Harrison, F. F., Johnson, R. D. and Ayer, D.: "Fatal Aplastic Anemia Following Use of Tridione and a Hydantoin," *J.A.M.A.*, 132:11-13, 1946.
15 Forster, F. M. and Frankel, K.: "Fatal Aplastic Anemia During Anti-Convulsant Therapy," *Dis. of Nerv. Syst.*, 10:108, April 1949.
16 Bloom, N., Lynch, J. P. and Brick, H.: "'Mesantoin' Poisoning with Aplastic Anemia and Recovery," *J.A.M.A.*, 138:498-499, 1948.
17 Best, W. R. and Paul, J. T.: "Severe Hypoplastic Anemia Following Anti-Convulsant Medication," To be published.
18 Mackay, R. P. and Gottstein, W. K.: "Aplastic Anemia and Agranulocytosis Following Tridione; A Fatal Case," *J.A.M.A.*, 132:13-16, 1946.
19 Greaves, R. J.: "Sensitivity to Tridione," *J.A.M.A.*, 132:44, 1946.
20 Carnicelli, T. J. and Tedeschi, C. G.: "Fatal Acute Pancytopenia Following Tridione Treatment," *New Eng. J. Med.*, 238:314-317, 1948.
21 Braithwaite, R. F.: "A Fatal Case of Agranulocytosis Associated with Tridione Therapy," *Brit. M. J.*, 1:14, 1948.
22 Gayle, R. F. Jr., Lynch, J. P. and Schuer, J. H.: "Another Fatality Following Use of Tridione and Hydantoin," *Virginia M. Monthly*, 75:288-291, 1948.

A Proposed Rationale for Topectomy

BENNO SCHLESINGER, M.D.
New York, New York

It is generally accepted that a good many patients suffering from emotional disturbances such as high tension states and agitated depressions are likely to be benefited by psychosurgical procedures while patients exhibiting blunting of affect fail to show improvement. Ablations of various regions of the frontal lobes have demonstrated that exstirpations roughly corresponding to the convexity areas 9 and 10 are most likely to normalize the emotional level. On the other hand, removal or undercutting of the basofrontal area 11 has been ineffectual. It is of interest in this connection that tumors or injuries involving the base of both frontal lobes are apt to give rise to profound disturbances in affect, behaviour and personality.

The contradictory evidence obtained from the two sets of observations is apparent rather than real since it is illogical to compare the effect of destruction of a given area in a previously healthy brain with the elimination of an identical area in a patient with disturbed emotional homeostasis. By resorting to the theory that the convexity areas of the frontal lobe "oppose" as it were, the basal areas, resembling, in this respect, the balanced antagonism of the sympathetic and parasympathetic system, one might expect to show that the two sets of data can indeed be reconciled. Furthermore, the frontal lobes not only subserve numerous autonomic functions, but are also intimately related to mental activities. The relation of these activities (particularly their emotional components) to the sympathetic-parasympathetic balance is therefore not unreasonable.

The two sets of facts under consideration may perhaps be best reconciled by assuming that hypothalamic activity units transmitted to the frontal lobes via the diencephalofrontal radiations either heighten or depress the feeling level, as if an individual unit were the carrier of either a positive or a negative charge which is being added to the derivatives of hypothalamic stimuli already present in the frontal lobe, and integrated there with intellectual elements. The above mentioned experiences with various lesions involving the basofrontal region of previously healthy individuals have shown that disturbances in affect, behaviour and personality are more severe than in lesions implicating the remaining parts of the frontal lobe, and suggest therefore that activity units and their emotional charges are transmitted predominantly to the base.

As expressed in quasi-arithmetical terms, equal numbers of opposite emotional charges simultaneously present in the frontal lobe, and integrated with the activities of intellectual neurons, should cancel each other out and produce a state of emotional indifference or neutrality, without inordinate predominance of either charge. From a physiologic point of view, however, homeostasis does not imply neutrality, but the maintenance of an optimal functional level somewhere above zero. (One might consider, at this point, the

pH of the blood and other functional states).

A normal emotional state should depend on a positive balance, as indicated in Fig. 1a, which shows two negative and two positive charges at the convexity of the frontal lobes (area 9 and 10), and four positive and two negative charges at the base (area 11).

In depressive states, the frontal lobes are flooded with negative charges, which apparently neutralize each other; actually, they establish a feeling level which is negative, as it fails to conform to the postulated normal proportion between positive and negative forces (Fig. 1b).

Topectomy of areas 9 and 10 which, preoperatively, carries three negative and two positive charges on either side, leaves four positive and three negative units at the base. By these means, a more nearly normal proportion is established (Fig. 1c) which becomes manifested psychically, after a brief transitory manic phase, (which in turn is due to the abrupt postoperative change in energy distribution), has worn off.

Tumors at the base of the frontal lobes destroy an equal number of positively and negatively charged units and leave two local positive units, which, together with the two positive charges at the convexity, outnumber the two remaining negative charges and lead to a heightened affect (Fig. 1d).

A similar effect may be observed in tumors involving primarily area 9 and 10 (Fig. 1e), but the clinical picture is apt to be mitigated. This may be due to a somewhat lower pressure effect upon the opposite frontal lobe, or the influence of an akinetic factor which operates as the result of the relationship between the nearby area 6 and the basal ganglia. (If implication of area 6 is avoided, as in ablation experiments on monkeys, psychomotor hyperactivity can be produced by convexity as well as basal lesions).

Prefrontal lobotomy destroys the diencephalo-frontal radiation (Fig. 1f) and reduces depressive states by elimination of fronto-petal "minus activity." At the same time, it blocks the recursive fronto-diencephalic flow of activity, with resulting suppression of cortical control, lack of restraint and similar effects.

Topectomy eliminates the convexity areas in which minus activity is unduly prominent, and leaves both the basofrontal areas and a sizeable contingent of fronto-petal and frontofugal fibers intact. It would appear, therefore, that either topectomy[5] or undercutting of area 9 and 10 is a more suitable method of restoring emotional balance than the classical total lobotomy, which destroys practically all fibers of the thalamo-frontal and fronto-thalamic radiation (Fig. 1f, dotted line). For similar reasons, partial electrocoagulation of the dorsomedial thalamic nucleus on either side (stereothalamotomy[6]) appears to be preferable to total or subtotal frontal lobotomy.

Ablation of area 11 in manic states should not change the emotional level as the proportion between the positive and the negative charges would remain unaltered postoperatively.

We have stated in one of the introductory paragraphs that we consider autonomic and emotional phenomena closely related. We may add, at this point, that we are inclined to correlate abnormal accumulations of positive charges with sympathetic, and negative charges with parasympathetic hyperactivity at the psychocortical level. This concept appears to be supported, at least in part, by the fact that various drugs which produce sym-

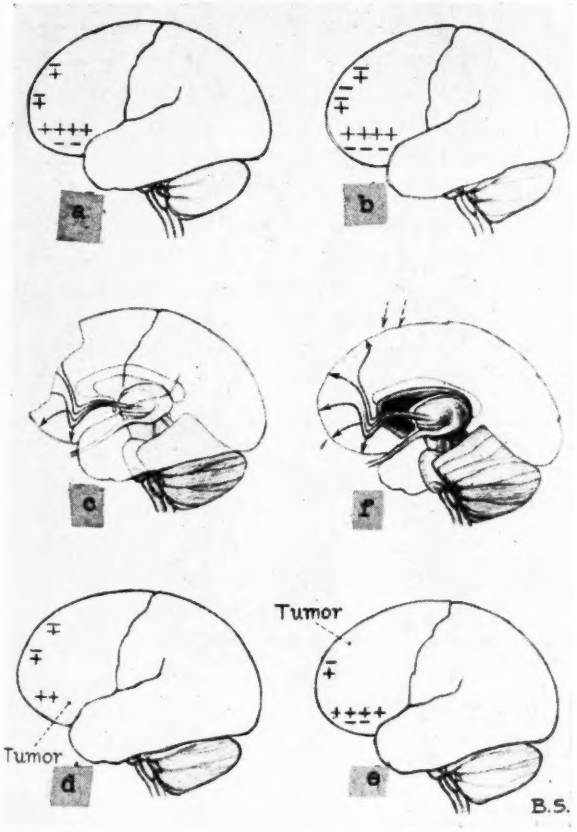

FIGURE 1

pathetic preponderance at lower cerebral planes as, for example, marihuana[1,2] (cannabis indica), are apt to precipitate a manic state, and the same holds true in many respects for atropine and cocaine. The transmitting mechanism, the diencephalon, can be activated by a variety of means: toxins, hormones, metabolites, as well as sensory impressions, from the most primitive pain sensation to the highest psychic experiences.

Following this line of thought to its conclusion one might view emotional experiences as the mode in which certain sympathetic and parasympathetic cortical activities are registered, as opposed to the James-Lange theory, which considers them as the awareness of peripheral innervational states, particularly in the vascular system. The closely related instincts may be regarded as the mode in which more or less complex visceral needs and drives reach a psychocortical representation. Overall gratification, however, is not merely the equivalent of the mechanical accumulation of charges in the postulated mutual proportion, but a result of secondary management by integration with the activities of intellectual neurons. Both neurotic and psychotic behaviour would reflect the replacement of the normal homeostatic mechanism by a vicious circle, with the resulting accumulation of one group of charges that are resistant to intellectual management and absorption, and the relative suppression of others. In a general way it may be said that the ultimate fabric of emotional imbalance is made up of the menestic residues of frustrations which, due to the increasing amount of associated negative charges, have become unduly prominent. If psychotherapy fails to undo the fabric by correcting both emotional and intellectual components psychosurgery may perform a "cure" by removing the neural substrate upon which signals of one group tend to leave their imprints.

Pool,[5] who methodically investigated the effects of ablation of various cortical areas upon emotional disorders did not formulate a rationale for the ablation of area 9 and 10, but confined himself to the statement that both a regional and mass action factors may have to be considered. Le Beau and his associates[3,4] believe that ablation of area 9 and 10 modifies the function of the neural circuit representing the fasciculus spinothalamicus, the lateral and medial nucleus of the thalamus, areas 9 and 10, the caudate nucleus, the nuclei of the septum and the hypothalamus. Pool's formulation is wide enough to include the explanation attempted by us. We would hesitate, however, to accept the rationale of the French writers, as disease processes involving most of the links of the circuit in question are not attended by changes of emotional coloring or mental anguish, but merely by altered sensation, and the septal nuclei are rudimentary structures in man.

Summary and Conclusions

1) An attempt is made to explain the following observations:

(a) the establishment of a normal emotional level following removal of areas 9 and 10 in states of depression,

(b) the lack of improvement following ablation of area 11 in similar emotional disorders, and

(c) the development of a heightened affect incident to disease processes involving area 11.

2) The various phenomena observed are considered as being due to changes of emotional homeostasis which in turn depends on the transmission of opposite charges from the diencephalon to the frontal lobes in a certain proportion.

3) The emotional charges involved in the establishment of a balanced feeling level are expressed in terms of sympathetic and parasympathetic activities. They do not imply a fixed, but a preferential point to point relationship in diencephalo-frontal integration and do not exclude the possibility of an increased conduction in some fiber tracts following elimination of others. The view expressed is therefore compatible with the observation that relapse may occur following successful surgery.

REFERENCES

1 Bromberg, W.: "The Effects of Marihuana," *Assoc. Res. Nerv. Ment. Dis.*, 19:180, 1939.
2 "The Marihuana Problem in the City of New York," Edited by the Mayor's Committee on Marihuana, *The Jacques Cabell Press,* Lancaster, Pennsylvania, 1944.
3 Le Beau, J. Feld et Bouvet: "Traitement des etats d'agitation anxieuse par la topectomie," *La sem. des Hop.*, Aug. 10, No. 67, 7, 1948.
4 Le Beau, J.: "La resection bilaterale de certains aires corticales prefrontales," *Ibidem.*, p. 1.
5 Pool, L.: "The Results of One Hundred Cases of Topectomy," Paper read at the Meeting of the New York Neurosurgical Society, 1949.
6 Spiegel, E. A., Wycis, H. T., Freed, H. and Lee, A. J.: "Stereoencephalotomy," *Proc. Soc. Exp. Biol. and Med.*, 69:175, 1948.

Neurological Clinical Pathological Conference

OF THE CINCINNATI GENERAL HOSPITAL

CHARLES D. ARING, M.D., Editor

CASE NO. 217489

Presentation

A 63-year-old, white laborer was admitted to the hospital September 11, 1946 because of continuous, purposeless movements. Information from the patient and friends indicated that the onset had been some 30 years previously following a hemorrhoidectomy. Throughout the years the movements gradually increased in severity until walking had become difficult. On August 21, 1946, while riding in a streetcar, he fell striking his head. Although temporarily dazed he did not lose consciousness. His friends were of the opinion that after the fall the movements had increased considerably.

He was born in Dayton, Texas. He had separated from his wife by whom he had 3 daughters, aged 22, 30 and 34 years, all purported to be in good health. Living alone since 1942, he had worked at many occupations. He had had "flu" in 1918. He knew of no neurological disease in the family.

Admission examination revealed the patient to be emaciated and to have a tender, swollen left testicle and epididymis. He had continuous rapid, involuntary movements involving nearly all the voluntary muscles of the body. There were flinging movements of the arms and to a lesser extent of the legs. and an inability to keep his tongue protruded were among the abnormal signs. The movements seemed primarily, rapid, writhing and twisting in nature and disappeared when he was at complete rest or asleep and were accentuated by intention. There was moderate hypotonia. The deep and superficial reflexes were normal as were the plantar responses. Speech was slurred and somewhat explosive. He was fairly clear mentally, although memory defects were apparent. He was frequently incontinent of bowel and bladder.

The scrotal inflammation subsided with sulfadiazine therapy. After 104 days, he was transferred to the Chronic Disease Hospital where gradual increase in symptoms occurred. By July 1948, the movements were so severe that he was unable to sit up in bed without being flung to the floor. He ate tremendous quantities of food but continued to waste away. There was atrophy of the muscles supplied by the right peroneal nerve with clawing of the right foot, although there was no apparent sensory impairment. His symptoms did not respond to medication unless he was put to sleep with intravenous barbiturates. In early December 1948, his movements quieted; he became less responsive and refused nourishment. It was thought that pneumonitis was present but adequate physical examination was impossible. He expired December 5, 1948.

At the time of admission the temperature was as high as 102.2 degrees F., the pulse 115; the white blood count was 14,200 per c.mm. with 86 per cent neutrophils, and all these returned to normal after subsidence of the scrotal infection. The blood pressure, respiratory rate, red blood count and serological reactions were normal. The blood urea nitrogen varied from 17 to 27 mg. per cent. Cerebrospinal fluid analyses were normal.

Differential Diagnosis

Dr. Harry M. Salzer: The case for discussion today is that of a 63-year-old laborer who was admitted to the hospital in 1946. He had purposeless continuous movements which apparently had started 30 years previously in 1916, and increased in severity. These movements undoubtedly were responsible for the fall which he had in August of 1946. He struck his head at that time and apparently the injury was not severe; he was temporarily dazed but did not lose consciousness. His friends felt that after this fall the movements had increased. His family and social history revealed that he had three daughters living, all reportedly in good health. He had been living alone since 1942 and had worked at many occupations. He had an acute epididymitis on admission which cleared up with sulfadiazine therapy, and the important

thing from our standpoint is not this acute infection but the fact that he had continuous rapid involuntary movements extending over the entire voluntary musculature. He had grimacing, uneven respiration, and he could not keep his tongue protruded. In July 1948, after transfer to the Chronic Disease Hospital there was a further increase in the severity of his symptoms. He was unable to sit up in bed, without being flung to the floor, and he had atrophy of the muscles supplied by the right peroneal nerve with clawing of the right foot. He gradually deteriorated mentally; the movements quieted down and he became less responsive.

The diagnosis here is not too difficult. It seems that we are dealing with Huntington's chorea in spite of the lack of family history. The daughters being 22, 30 and 34 years, may not have reached the age at which the choreic manifestations might have appeared. This man had the choreic movements begin in 1916 when he was 33 years old, a not unusual age of onset for Huntington's chorea. There is evidence perhaps of mental deterioration in the fact that he lived alone after 1942. Apparently he ceased to make an adjustment with his family. He had worked at many occupations, which indicates certain economic and employment instability, and perhaps that too is some further evidence of mental deterioration occurring concomitently with the motor manifestations of the disease. The progression here is characteristic (along with mental deterioration) of Huntington's chorea.

The atrophy of muscles supplied by the right peroneal nerve is somewhat difficult to explain. It may be that the patient lay in bed with his right leg crossed over the left, perhaps in an attempt to stabilize himself in bed. I would think that he probably either produced pressure of the right peroneal nerve in this manner or that he injured it somehow during his involuntary movements. The usual course is steady progression to death.

I feel my primary responsibility today is to discuss Huntington's chorea and other diseases of the extra-pyramidal system. With but one exception diseases of the basal ganglia are gradual in their onset. The exception is hemorrhage into the corpus luysi where there is sudden onset of the condition called hemiballismus. The movements that occur, throwing in type, are termed ballismus (from the Greek word meaning to throw—the same root as ballistics). These throwing movements occur on the opposite side of the body to the corpus luysi involved. Extra-pyramidal disorders of gradual onset are characterized by two main features; disordered tone and involuntary movement. There are essentially three symptom complexes that are associated with extra-pyramidal disease. They are (1) the tremor and rigidity syndrome of Parkinson, (2) athetosis, and (3) chorea. Our knowledge of the pathology of the various syndromes is not sufficiently advanced so that we might say that in one the lesion is in the caudate or in the putamen or in the globus pallidus.

In Parkinson's disease the hypertonus is not as severe as that in other types of spastic hemiparetic lesions. It occurs through the entire range of passive and active movement, and it is spoken of as lead-pipe or cog-wheel rigidity. In testing for tone of this type, a slight jerking of the extremity showing this variable type of tone may be detected by the clinical examination.

Walshe says that all voluntary muscles are involved except the eye muscles in Parkinsonism, but there is infrequent blinking and the so-called reptillian stare. I believe there is some change in the eye muscles in the Parkinsonian syndrome as well as in other voluntary muscles.

As for athetosis (from the Greek root meaning not fixed), in this condition there are irregular excesses of hypertonus that spread into the voluntary musculature that produce slow, writhing movements and curious postures of the limbs, with which I think some of you are familiar. Here again the eye muscles are supposed to escape.

In chorea (from the Greek, dance. I think we all know the terms choreographer and choreography if we have been to the ballet), there occurs sudden, jerky, incoordinate movements which appear as the patient goes to do something, in contrast to athetotic movements which may appear at rest. These choreic movements are superimposed on voluntary movements. Usually in patients who have primarily athetoid conditions, emotion or motion may exaggerate the athetoid movements. In the choreic patient again,

motion may exaggerate these movements. The eye areas again are supposed to escape in chorea, although sometimes they are involved. Huntington's chorea lies someplace between these two, and we see a combination of athetoid and choreic types of movements.

Now to discuss Huntington's chorea proper. I might begin with a historical note. In 1630, a ship brought to this country two brothers and one other man, all of whom had wives (sisters) who were of choreic stock—not yet named Huntington's chorea. These people settled in Massachusetts and from that stock, it was possible to trace by 1916, 1,000 cases in Massachusetts, Long Island and Connecticut. Wilson states that these people came from Burres in the county of Suffolk, England. The disease had gone through 12 generations in 300 years. A second report of these cases (1932) revealed that there had been transmissions to further generations, and the only generation that had escaped were those in which the children had not grown old enough to contract the disease.

The condition was recognized clinically in 1872 by a Long Island physician, whose father and grandfather were physicians before him. I think that the case records that were in the Huntington family undoubtedly assisted the latter Huntington in establishing this disease as a clinical entity.

In Huntington's own words, "The hapless sufferer is but a quivering wreck of his former self." I think that is quite true, and it is certainly the description of the patient we are considering today. Huntington recognized three diagnostic requisites, that it has a hereditary nature, that there is a tendency to insanity and suicide, and that it appears in adult life. The frequency of the disorder fortunately is quite rare. The frequency is 0.2 per cent and cases are reported from all over the world. The incidence of cases at the National Hospital, Queen Square is also 0.2 per cent, a similar incidence to that reported from two Michigan state hospitals. The average age of onset, which I think is one factor in eliminating this patient's daughters from the choreic picture, is 37 years. In any sibship, it is estimated that from one-fourth to one-half of the children may be expected to become choreic. The symptoms are of course chorea, and that is largely a big joint chorea, where the movements seem to be large, there seems to be a lot of movement going on. If you have tremor say in a couple of fingers, there doesn't seem to be a lot of movement present, but if it is in the shoulder joint, the entire limb is involved, and therefore it seems to have a much greater displacement and energy expenditure. Incidentally the tremor or choreic movement may be limited to certain areas. For example, one family was known as the head-nodders; there was another family in which the choreic movement occurred chiefly on the left side of the face and about the eyes.

The mental deterioration may be rather insidious in onset; the patient may become irritable, or may have grandiose ideas or ideas of unworthiness, and it is sometimes the feeling of unworthiness and depressed feelings that lead these patients to suicide. The disease has a progressive course.

Pathologically, the lesions are widespread, they involve the cortex and basal ganglia and sometimes even the cerebellum. The process is one of slow chromatolysis, and there is gradual breaking up of dendrites, and entire cell areas disappear. This is specific in that the fourth layer of cortical cells seems to escape. The effect is chiefly in the 3rd, 5th and 6th layers, according to Wilson. There may be extensive falling-out of the cells of the basal ganglia, particularly in the caudate and putamen, and as a result there is atrophy and the ventricles enlarge. As a result of the changes in the cortex, there is atrophy of the gyri and widening of the sulci.

The pathogenesis is certainly unknown. The disease has been believed to be a chronic meningo-encephalitis, a vascular involution or a wasting of certain cells with progressive gliosis, but there is really only one pathogenetic factor about which we can be sure, and that is heredity.

The differential diagnosis is sometimes difficult because the patient may have chorea for a number of years with undetected mental change, and on the other hand, there may be mental change without the development of chorea, so that there may be cases who are considered as other types of psychoses who really fall into the Huntington group. Senile chorea particularly has to be differentiated but this is usually a mild type of chorea and mental deterioration may not be present.

In summary, I feel that the patient under discussion today is one of Huntington's chorea despite the family history up to this point, and I believe that the microscopic slides will show deterioration in the cortex and also in the basal ganglia.

Pathological Discussion

Dr. Murton Shaver: The autopsy was performed 37 hours postmortem. The anatomical diagnoses in addition to those to be described in the central nervous system, included confluent lobular pneumonia on the right with abscess of the right middle lobe; emaciation; visceral evidence of anemia and cardiac dilatation with acute passive congestion of all the viscera.

The brain weighed 1330 grams. The dural cap was not remarkable. The cerebral hemispheres were symmetrical and showed generalized widening of the sulci most marked over both frontal lobes with some thickening of the leptomeninges and moderate congestion of the cortical veins. The tissue generally was somewhat soft to palpation but no focal areas of softening were noted. The convolutional pattern generally was normal and there was no evidence of flattening of the gyri and no evidence of shifting of the midline structures. The vessels at the base were thin-walled and normal in distribution.

Coronal sections at 1 cm. in thickness were made through the cerebrum, brain stem and cerebellum. There was no evidence of displacement of any of the structures but the ventricular system appeared somewhat enlarged throughout particularly the lateral ventricles. The ependymal surface was grossly normal. The caudate nuclei bilaterally were diminished in size with corresponding widening of the overlying portion of the lateral ventricle in each case. The lentiform nucleus on each side showed some mottling with the yellowish gray areas in perivascular zones and there appeared to be slight diminution in size of the putamen bilaterally. No gross areas of hemorrhage or softening were encountered throughout the sections.

A portion of the lower spinal cord including the cauda equina was submitted for examination but aside from diminution in size the cord presented no noteworthy features. The cut surface of the spinal cord appeared normal.

Sections of cerebral cortex removed from frontal, parietal, occipital and temporal lobes were examined. There was generalized congestion of the vessels of the leptomeninges. The perivascular spaces in the cortex were not remarkable aside from moderate distention. A few of the vessel walls appeared slightly fibrosed particularly in the smaller arterioles. With cresyl-violet stain the cytoarchitecture generally showed widespread areas of nerve cell loss most marked in the posterior frontal regions. The cortex generally was thin and the gyri appeared smaller than usual. The greatest nerve cell loss appeared in the 3rd, 4th and 5th layers of the cortex where ghost cells together with ischemic and sclerotic cells were seen. Occasional cells showed vacuolization and severe damage. Satellitosis and neuronophagia were observed in the deeper portions of the cortex in some areas. In many areas in the deeper layers there appeared to be increase in glial nuclei and with phosphotungstic acid stain there was seen to be some increase in glial fibers and astrocytes. A considerable increase in astrocytes and glial fibers was demonstrated in the subcortical white matter. No areas of myelin or axonal degeneration were demonstrated with Loyez and Bodian stain.

Coronal sections through the basal ganglia demonstrated slight fibrosis of the smaller blood vessels. Around occasional vessels a few small mononuclear cells resembling lymphocytes were scattered in the perivascular spaces. Phosphotungstic acid stain showed a marked increase in glial elements scattered throughout the adjacent cortex and there was patchy nerve cell loss in the deeper cortical layers as described in the previous sections. There was similar glial fibrosis in the putamen and in the region of the head of the caudate nucleus and generally in the subapendymal layers of the lateral ventricle. Cresyl-violet stain demonstrated a diffuse loss in nerve cells throughout the putamen and more particularly the caudate nucleus where few recognizable nerve cells remained. In these areas of most marked degeneration, giant astrocytes were occasionally found and there was heavy glial fibrosis.

The ependymal wall of the lateral ventricle was ballooned out corresponding to the shrinkage in size of the caudate nucleus. Bodian and Loyez stain again demonstrated

preservation of the myelin sheaths and axones. Sections made more posteriorly through the basal ganglia demonstrated preservation of large nerve cells in many areas in the putamen and the cellular loss here appeared to be of a patchy nature associated with patchy areas of gliosis. There also appeared to be diffuse loss in the smaller nerve cells. Aside from slight diffuse increase in the glial nuclei and generalized swelling and slight chromatolysis in some of the nerve cells no significant abnormality was noted in the thalamus.

Sections through the cerebellum, pons and medulla revealed no significant abnormality. The nerve cells in the brain stem nuclei appeared to be fairly well preserved as did the cytoarchitecture of the cerebellar folia. There was generalized congestion of the vessels in the region of the aqueduct of Sylvius and the floor of the 4th ventricle.

Sections through the spinal cord and cauda equina revealed only slight nerve cell loss in the region of the anterior horn cells with some ischemic change noted in the cells remaining. This was not associated with any evident increase in glial cell nuclei in these areas.

The gross and microscopic changes described in this case are characteristic of those found in Huntington's chorea. The changes here found in the cortical nerve cells are more diffuse than are usually found in this condition, and this may be attributed to anoxemia resulting from the pulmonary condition, the final cause of exitus.

A familial history was elicited from relatives postmortem showing the existence of similar symptoms in other members of the family.

Clinical Diagnosis

Huntington's Chorea.

Dr. Salzer's Diagnosis

Huntington's Chorea.

Anatomical Diagnosis

Huntington's Chorea.
Confluent lobular pneumonia right lung.
Lung abscess right middle lobe.

Dr. John Higgins: How far back must one go in the family before one begins to feel no insecurity in ruling out a hereditary disease? If the history is traced back as far as the great-grand-parents without finding any evidence of the disease, is it safe to rule it out?

Dr. Aring: I believe it depends somewhat on where you are working and how well you know your patient. I think if you have pretty good evidence that you have combed that much of the family tree without having left out anyone—if you know what had happened to all these people up to the age of 50—you could be reasonably certain in ruling out this disease. If you were working in England, where many families have remained on the same spot or in the same parish since the Norman invasion, there is usually no difficulty in obtaining a dependable family history. In this country this is not so, the population moves about—it is not static; the American is a wanderer. Perhaps with the frontiers closed, he won't be, but up to recently he has been and it is extraordinarily difficult in this country—at least so it has been in my experience— to get a family history that can be trusted. Like anything else the return depends upon the effort you put into it.

As Dr. Salzer mentioned, if you don't know what happened to these people up to the ages when they might have developed Huntington's chorea, your family history obviously lacks significance. Someone has pointed out that this disease may skip several generations but when those skipped generations were closely examined it was found that they went through the Civil War; the men particularly had been killed off before they had the opportunity to develop the disease; yet they had had children before they died.

I didn't know of any family history in this case. This man had been transferred from this hospital to the Chronic Hospital. Our former resident, Dr. Howard Krouse, had followed him closely and talked to him extensively and had not been able to develop a family history of any neurological disorder.

Oral Myanesin (Tolserol) in Schizophrenia

SAMUEL DINENBERG, M.D. and ARTHUR O. HECKER, M.D.
Coatesville, Pennsylvania

Gammon and Churchill,[1] in studying the effects of Myanesin (Tolserol) upon the central nervous system, obtained results which suggested that the drug had a differential action upon the basal ganglia, brain stem, and perhaps upon the thalamus. Correlating these findings with the fact that clinical improvement was obtained in certain psychoses by devices which severed the thalamic cortical radiations or destroyed areas of the thalamic nuclei, they made preliminary observations of the use of Myanesin (Tolserol) on three psychotic patients; one, a reactive depression; another, a deteriorated, negativistic schizophrenic; and a third, an agitated patient. Their patients showed reactions under effects of the drug which indicated that further clinical trials should be attempted. These investigators utilized the intravenous route for administration of the drug.

In an attempt to follow up the studies of Gammon and Churchill, we selected 27 psychotic patients for purposes of clinical investigation of the effects of Myanesin (Tolserol) given orally. Roughly, these patients were divided into three groups:

1. Patients whose behavior was characterized by agitation or recurrent periods of excitement.

2. Patients who were non-communicative, negativistic, and markedly withdrawn.

3. Patients who were primarily autistic but relatively stable in their reaction to their environment.

All patients except one carried a diagnosis of schizophrenic psychosis, the exception being a patient with a chronic anxiety state. Duration of the illness varied from 2 years to over 12 years, the average patient having manifested a psychotic reaction for 2 to 5 years. The majority of the patients had had electroshock therapy, deep insulin shock therapy, and/or combined deep insulin and electroshock therapy. Thus the group in its entirety can be considered as having well established mental illness which was not amenable to available forms of therapy for such reactions.

Controls

In order to establish some sort of control criteria, the following procedures were carried out:

1. Each patient was interviewed and the interview recorded by two investigators within three days of initiation of therapy and immediately following therapy.

2. Moving pictures were taken of each patient during this 3-day period to note their overt reactions and again immediately following therapy.

3. Psychological examinations, utilizing the verbal portion of the Wechsler-Bellevue Intelligence Scale (minus vocabulary) and a Rorschach examination were administered within one week prior to initiation of therapy and immediately following therapy.

4. Complete blood counts were done immediately prior to and following therapy.

5. During the course of therapy, separate progress notes were made by a psychiatrist, psychiatric nurses, and psychiatric aides every other day and were independently recorded. These were not correlated until the end of the experiment.

Dosage

Both tablets and elixir of Tolserol were used, the one supplementing the other in many individual cases, but in some instances each patient was carried through on one or the other form of medication. The standard dosage was one gram every 2 hours for 5 daily doses, a total of 5 grams daily. In one instance, a patient inadvertently received 2 grams at a single dose via a tube-feeding with no untoward effects. All patients received daily doses of Tolserol for a 3-week period. Three patients were carried on for 4 to 6 weeks, with the dosage increased to 6 grams daily.

Results

A) *Clinical:* In no instance was there any change in the basic pattern of the psychosis or in the character of the psychotic productions. The results of the correlation of the

TABLE I

Patient	Diagnosis	Clinical Results	Psychological Results
AGITATED GROUP			
1. T.D.	Schizophrenia, Paranoid.	Felt less tense; more friendly on some days.*	Slightly better contact with reality; more appropriate emotionality and ability to use fantasy.
2. G.M.	Schizophrenia, Paranoid.	Increased friendliness and decreased tenseness; better affective response and sociability.	Slightly more productive.
3. D.E.D.	Schizophrenia, Paranoid.	No change.	8 point improvement in I.Q.; changes small but consistent. Rorschach more productive, and more affective responses.
4. C.D.	Schizophrenia, Hebephrenic.	No change.	Slight but consistent improvement of intellectual functions.
5. M.V.	Schizophrenia, Catatonic.	No change.	Slight but consistent improvement on intellectual function.
6. E.P.	Schizophrenia, Catatonic.	No change.	Could not be tested.
7. J.D.	Schizophrenia, Paranoid.	No change.	Could not be tested.
8. R.F.	Schizophrenia, Hebephrenic.	Patient at times more friendly and neat, and less hyperactive.	Slight consistent improvement and increase of 11 I.Q. points.
9. F.S.	Schizophrenia, Hebephrenic.	Occasionally more friendly and amenable.	Could not be tested adequately.
10. R.L.P.	Schizophrenia, Paranoid.	Patient occasionally became more coherent.	Could not be tested.
11. R.C.I.	Schizophrenia, Hebephrenic.	No change.	Marked increase from dull normal level to the high average level. More accessible although agitated during re-test.
NON-RESPONSIVE GROUP			
12. F.Mc.H.	Schizophrenia, Catatonic.	More friendly and relaxed early in treatment.	Defective level before treatment. Inaccessible after treatment.
13. S.M.	Schizophrenia, Catatonic.	More communicative, cooperative and pleasant.*	Could not test prior to treatment. More cooperative after treatment but too incoherent to test.
14. S.W.	Schizophrenia, Catatonic.	Left the mute state briefly on one day of treatment.*	Unable to test.
15. W.C.J.	Schizophrenia, Hebephrenic.	Talked very briefly on 17th day of treatment.	Slightly less responsiveness on re-test.
16. F.K.	Schizophrenia, Catatonic.	No change.	Could not be tested.
17. G.J.N.	Schizophrenia, Catatonic.	No change.	Some contact with reality prior to treatment; non-responsive after treatment.
18. W.K.	Schizophrenia, Catatonic.	No change.	Could not be tested.
STABILIZED GROUP			
19. R.F.M.	Schizophrenia, Catatonic.	No change.	Aggressive and uncooperative following treatment.
20. E.M.	Schizophrenia, Hebephrenic.	No change.	Could not be tested.
21. W.S.	Schizophrenia, Hebephrenic.	No change.	Rorschach showed slight improvement in ability to think along lines of other people.
22. E.J.B.	Schizophrenia, Hebephrenic.	Transitory increased accessibility during second week.	Slight increase in recall and generalization; less productive on Rorschach.

STABILIZED GROUP (Continued)

Patient	*Diagnosis*	*Clinical Results*	*Psychological Results*
23. A.A.	Schizophrenia, Paranoid.	Felt relaxed and was more friendly and courteous.	Greater productivity; better contact with reality; elimination of some bizarre concepts.
24. D.J.P.	Schizophrenia, Paranoid.	No change.	No change.
25. M.T.	Schizophrenia, Paranoid.	Compulsive, bizarre behavior became more marked and patient more negativistic.	Marked increase in productivity; greater utilization of fantasy and emotionality.
26. H.A.	Schizophrenia, Paranoid.	After third day, patient began releasing psychotic productions which he had heretofore attempted to cover up. His psychosis became definitely more overt. However, he was more friendly and verbalized more readily.	Slight constriction of creative resources.
	ANXIETY NEUROSIS		
27. D.J.M.	Anxiety Neurosis	Subjectively and objectively less tense. Able to converse more easily. Tremors not so marked.*	Second record slightly less productive.

*These patients received extended treatment with 6 grams daily dose with no further change in reaction.

observations by the members of the team composed of psychiatrists, psychiatric nursing staff, and psychiatric aides are noted in Table I. All changes so noted were transitory, variable in the time of their appearance, and were not of sufficient degree to be directly attributable to the effect of the drug. On the other hand, it is interesting to note that the pattern of changes in behavior is relatively consistent, i.e., the patients, particularly the agitated group, felt less tense at times and showed increased friendliness and sociability on the ward. It is also to be noted that 4 of the 7 patients in the nonresponsive group showed transitory periods when they were somewhat more communicative. None of the gains were sustained either during the period of therapy or following therapy nor were they consistent as to total dosage of the drug given or the time of their appearance in the course of the therapy.

B) *Psychological:* The results of psychological examination also appear in Table I. These results were reviewed by the clinical psychologist performing the examinations in conjunction with the Chief of the Clinical Psychological Department and the authors. It was the conclusion of this group that the findings were not of sufficient degree of change to be considered statistically significant but fell within the range of testing variables under the circumstances prescribed by the investigative protocol.

C) *Blood Studies:* In no instance were the changes in red or white blood counts greater than what is generally considered to be valid variation between repetitive counts on the same person.

Comment

Myanesin (Tolserol) is known to be rapidly detoxified in the body. While our study produced no significant changes in the clinical picture, the fact that minor changes in behavior occurred, which in many instances were related to the areas of anxiety tensions, would indicate that further studies along these lines should be made if and when longer-acting analogues of the drug can be developed.

Summary

Twenty-seven psychotic patients were subjected to a clinical trial of Myanesin (Tolserol) vit the oral route of administration. The study was controlled by history of the patient's past behavior; pre-therapy, interval, and post-therapy interviews; pre- and post-therapy psychological examination; and pre- and post-therapy cinema recordings of overt

behavior. The changes that were noted in behavior were not remarkable enough to definitely state that they were due to the effect of the drug. On the other hand, the drug is one which is rapidly detoxified in the body and conceivably could have effected the transitory responses which were noted in the protocols.

Conclusions

1. Oral Myanesin (Tolserol) therapy in doses of 5 and 6 grams daily produces no definite therapeutic response in schizophrenia.

2. Should longer acting analogues of the drug be developed, clinical studies of the type herein reported should be repeated.

This report has been sponsored by the Veterans Administration and is published with the approval of the Chief Medical Director. The statements and conclusions published by the authors are a result of their own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

REFERENCE

1 Gammon, B. D. and Churchill, J. A.: "Effects of Myanesin Upon the Central Nervous System," *Am. J. Med. Sciences,* 217:143, Feb. 1949.

Special Clinical Techniques and Observations in the Use of Sodium Pentothal for Narcosynthesis

LEONARD TILKIN, M.D.
Chicago, Illinois

Since the primary purpose of any medical therapy is to help the patient, we have tried constantly in the use of narcosynthesis with sodium pentothal to find techniques that may in some way improve our knowledge of the drug and our ability to use it. This paper represents some thought processes of the author in relation to narcosynthesis.

The exact action of sodium pentothal on the human mind is not known, but we do speculate as to the action being one of a release of conscious inhibitions to the degree that the patient speaks freely (leading to the layman's term of "truth serum").

Thus, since sodium pentothal allows the patient the ability to relax and simultaneously speak freely, we have concentrated our efforts on the use of certain techniques that appear indicated for that particular type of patient, and thus have attempted to categorize certain types of therapeutic measures to meet the psychiatric needs of these particular types of patients.

First, some patients adjust themselves so well to the relaxation phase of the sodium pentothal interview, that we feel that we are possibly dealing with a conditioned reflex mechanism that can be employed by gradually increasing the dosage each time the patient is seen. We have seen many cases show substantial improvement by adopting this technique.

However, on the other hand, sometimes we feel sodium pentothal narcosynthesis is very similar to immunization; namely, the drug is given and the patient shows some improvement; then, there is a recurrence of symptoms and the patient returns for a "booster" dose and again there is improvement. We have seen many cases that follow this pattern of improvement.

In other cases, improvement seems to come about on a very superficial level, and yet the patient begins to gain the necessary confidence in himself and continues to improve. Under these circumstances, since the purpose is basically accomplished, it is best not to attempt any further deep-seated investigations; since we may not only destroy the favorable work already done but stir up new emotional problems previously not realized. However, many cases require deep-seated investigations to extract the entire extent and background of their condition, and only under these circumstances can substantial improvement be brought about. We have seen cases of each type that fulfill the paradoxical descriptions of the two extremes.

In performing narcosynthesis, we have come to feel that there are three distinct stages to the phase of the interview; namely, a period of questioning following the administration of the drug, then a period of complete relaxation with no discussion at all, followed by a period of conscious interpretation. The first and third periods are generally agreed upon by everyone. However, it has been our personal reaction to the inserting of the second period of complete relaxation which we feel is extremely valuable since it seems to make the patient more prepared for the period of conscious interpretation.

As our work progresses in the field of narcosynthesis, and we learn more about techniques, dosages, individual tolerances, reactions of specific psychiatric types to narcosynthesis, and innumerable other factors, we shall probably discover a threshold that will indicate the amount of drug used in relation to the amount of relaxation and psychiatric material obtainable, as well as the time factor of injection and time following injection. However, even if some mathematical formula should be obtained, it would only serve as a general rule, since we must remember each case is an individual one and must be treated as such.

Often in the course of narcosynthesis, some of the information may be considered negative information, since it rules out something stated in a conscious period. We must realize all information of the interview, negative as well as positive, is of great value to the psychiatrist.

As one works with a fascinating technique, such as the sodium pentothal interview, he comes to realize that the scope is infinite, and the individual contributions one can make to better his own use of the technique are equally infinite.

POSTGRADUATE COURSE IN CLINICAL NEUROLOGY

Department of Postgraduate Medicine

UNIVERSITY OF MICHIGAN, ANN ARBOR, MICHIGAN

MAY 8 - 11, 1950

The course is designed to re-orient the practicing physician in regard to the nervous system and the disease processes affecting it, stressing principally the close relationship between systemic disease in general and nervous system involvement or complications. The procedure of the neurologic examination will be reviewed with special emphasis on some of the newer diagnostic procedures. Many of the nervous system manifestations more commonly met with in general practice will be discussed individually. Diagnostic procedures, differential diagnosis and the newer modes of therapeutic approach will be dealt with. The course will be augmented by clinical presentations and a review of the essential laboratory procedures.

Detailed programs may be obtained from Howard H. Cummings, M.D., Chairman, Department of Postgraduate Medicine, University Hospital, Ann Arbor, Michigan.

PINEL CLINIC

ELLICOTT CITY, MARYLAND

A Private Sanitarium for the Neuroses and Psychoses

IRVING J. TAYLOR, M.D., *Medical Director* **DESCRIPTIVE FOLDER ON REQUEST**

VALERIANETS-DISPERT®

Sedation and Euphoria for Nervous, Irritable Patients

Each tablet contains Ext. of Valerian 0.05 gm. dispergentized for maximum efficiency. Odorless and tasteless. Non-habituating. ACTION AND USES: A mild central nervous system depressant. For use in emotional upsets, anxiety states, nervous insomnia, the nervous syndrome of the menopause and of arteriosclerotic subjects.

1 or 2 tablets as required or 3 on retiring. Bottles of 50, 100 & 500.

STANDARD PHARMACEUTICAL CO., INC. 1123 Broadway, New York